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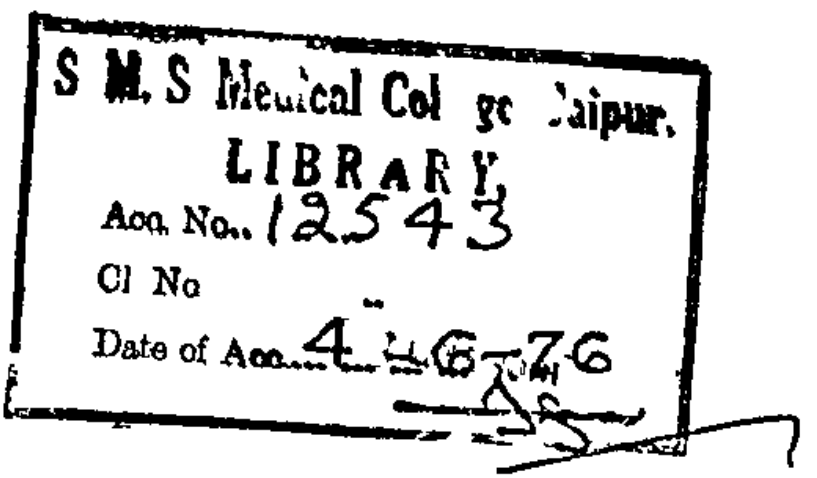
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INTERNATIONAL ABSTRACT OF SURGERY

JULY 1929

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Bernard R Cancer of the Floor of the Mouth Invading the Maxilla Treated by Morestin's Operation Partial Resection of the Inferior Maxilla (Cancer du plancher de la bouche ayant envahi le maxillaire traité chirurgicalement par l'opération de Morestin resection partielle du maxillaire inférieur) *Bull et mém Soc nat de ch* 1928 liv 1101

The patient whose case is reported was a man fifty seven years of age The ulceration had not affected the tip of the tongue Laterally it had extended beyond the canine teeth and anteriorly it had advanced to the alveoli of the incisors without however reaching the gingivolabial fold of mucosa Biopsy showed the lesion to be an epithelioma with epithelial pearl formation

Treatment by intrabuccal radium apparatus was impossible as it would have caused a radium necrosis The deep layers of the floor of the mouth being intact the Morestin operation was performed the invaded maxilla the floor of the mouth and the under surface of the tongue being removed in a single piece The mucosa was then sutured so as to form a covering for the tongue The floor of the mouth was left to be covered by secondary intention as it was necessary to keep the tongue mobile The lateral edges of the maxilla were covered by gingivogingival sutures

Five months after this operation the inframaxillary glands were palpable on both sides and complete bilateral ablation of these glands was done Healing took place in twelve days The removed glands were found to be cancerous

Seven months after the operation the patient seemed to have recovered Phonation was relatively good and the æsthetic result and mastication even of solid foods were excellent

Infralingual cancer with invasion of the floor of the mouth is peculiarly malignant resulting in early and extensive invasion of the glands On account of the median situation of the lesion its propagation is nearly always bilateral In nearly all cases the inferior maxilla is involved The glands should be removed fifteen days after the first operation Irradiation by means of molded apparatus applied directly to the floor of the mouth has given good results but is associated with considerable risk of osteonecrosis and infection PACE

Bérard and Creyssel Eighteen Cases of Cancer of the Parotid (Sur 18 observations du cancer de la parotide) *Lyon chir* 1928 xxv 591

Since 1914 the authors have treated twenty nine malignant lesions of the parotid region Of these they discuss eighteen which seemed to have originated in the gland itself Twelve of the patients were men Only two were under fifty years of age and one of these was under forty Eight were between fifty and sixty years of age and five between sixty and eighty five years of age In five cases the malignant lesion was preceded by a mixed tumor of the gland The length of time the mixed tumor had been present ranged from eight to twenty years In four cases the mixed tumor had been operated upon and in some of them it had been operated upon repeatedly This observation shows the necessity of removing benign tumors of the parotid very freely if they are operated upon and of supplementing the operation with the use of physical agents

Most of the malignant lesions were epithelomata The epithelomata were glandular more or less atypical and of the malpighian and branchial types Such tumors are very often the result of degeneration of embryonic branchial inclusions this fact explaining the presence of ectodermic mesodermic and endodermic tumors with their different varieties In the cases reviewed there was only one sarcoma Facial paralysis was rare even in advanced cases

Two patients who were treated in 1927 are omitted from consideration because they have not been under observation for a sufficient length of time Of the remaining sixteen three could be given only palliative treatment and died from one to six

EAR

Josephson E M Vascular Changes in Chronic Progressive Deafness *Laryngoscope* 1929 xxxix 40

In cases of chronic progressive deafnes the author has noted a constant injection of the drum due to dilatation of the manubrial and tympanic plexuses singly or together He believes that such vascular changes in the external auditory canal indicate similar vascular changes in the capsule of the inner ear

GEORGE R MCAULIFF M D

Smith C H The Modified Radical Operation on the Mastoid *Arch Otolaryngol* 1929 ix 135

The modified radical operation on the mastoid is indicated particularly in cases of chronic otitis with small perforations in the upper part of the drum and relatively good hearing It may be performed also in those with good hearing on the affected side and nearly total loss of hearing on the opposite side In cases of the former type and in many cases of the latter type a dry ear with cicatrization and at least conservation of hearing may be expected Another advantage of the operation is accelerated healing

The author cites the experience of various surgeons with the modified radical operation and reports several of his own cases in which it was performed

W M LATON M D

NOSE AND SINUSES

Fraser R H Diagnostic Uses of Lipiodol in the Paranasal Sinuses *Radiology* 1929 xii 6

The author has found examination of the paranasal sinuses with the aid of lipiodol introduced by injection or suffusion of great value especially in baffling rhinological cases He describes the technique used in introducing the oil and in making the roentgenographic study and illustrates the types of problems suitable for investigation with iodized oil by reporting four cases in some detail

The method is of value for the following purposes

1 To rule out sinuses which are cloudy to transillumination and primary roentgen ray examination solely because of anatomical peculiarities

2 To determine which sinuses are affected and which unaffected by a pathological process

3 To reveal extension to the sinuses of neighborhood inflammation or malignancy

4 To determine the effect of conservative treatment over a period of time

5 To determine what grades of anatomical change in the various inflammations are capable of resolution without radical surgery

6 To determine the type of operation indicated and the direction of approach and the drainage

7 To determine the site of the pathological tissue which is to be removed and the site of attachment of polypi

8 To check the success of preceding surgical procedures

9 To determine the cause of chronic symptoms following operation

From the purely roentgenographic point of view the method is of value because it reveals beginning changes earlier than other methods reveals soft tissue growth multiplies the number or extent of separation lines so that they may be interpreted and reveals the thickness as well as densities

ADOLPH HARTUNG M D

MOUTH

Figi F A and Harrington S W A Dermoid Cyst of the Floor of the Mouth Report of a Case *Surg Clin N Am* 1929 ix 89

True dermoid cysts are rare in the mouth although they occur frequently in other parts of the body They are believed to be of congenital origin but often do not become evident until early adult life The patient with a dermoid cyst of the mouth may be unaware of its presence until it interferes with speech or becomes large enough to cause a visible submaxillary swelling

The differential diagnosis frequently depends upon microscopic examination although ranulæ and mucous cysts have thin glistening walls and a bluish appearance whereas the wall of the dermoid cyst is thick and often pits on pressure The treatment of dermoid cysts is complete excision

The authors report the case of a boy fifteen months old who had a dermoid cyst beneath the tongue and a sinus beneath the chin from which a thick creamy material was readily expressed Physical examination was otherwise essentially negative The cyst was removed through an extraoral incision without rupture of the mucous membrane of the mouth or of the cyst Recovery was uneventful

CHARLES W FREEMAN M D

PHARYNX

Dunn L S Tumors Benign and Malignant of the Tonsil and Peritonsillar Area *Laryngoscope* 1929 xxxix 16

Dunn states that primary malignancy of the tonsil and peritonsillar area is not as uncommon as it was formerly believed to be An early diagnosis is important A tonsillar or peritonsillar mass should never be punctured when symptoms of tonsillar or peritonsillar infection are absent and biopsy should never be done in what are believed to be borderline cases Biopsy specimens should be removed with the cautery instead of the cold knife When the laryngologist is unable to make a diagnosis he should consult a surgical pathologist When the diagnosis then remains doubtful he should refer the patient to a roentgenologist

JAMES C BRASWELL M D

Trotter W Operations for Malignant Disease of the Pharynx *Brit J Surg* 1929 xvi 483

Epitheliomata occurring in the laryngeal portion of the pharynx may be classified into the following

months later Of thirteen patients treated three four or five years ago five are still living Nearly all of the eight others died less than a year after the treatment

There seems to be no difference in the prognosis of the different anatomical forms of malignant lesions of the parotid

The most satisfactory treatment seems to be the combination of surgery with the use of physical agents This gives better results than surgery alone even when the operation includes bone resection

PACE

EYE

Moore R F Caterpillar Hair Ophthalmitis (Ophthalmia Nodosa) *Brit J Ophth* 1925 ix 57

A twelve year old boy was seen by the author two weeks after a playmate had struck him in the right eye with a caterpillar which the patient described as a woolly bear The eye was intensely inflamed and the anterior chamber was one quarter full of pus The cornea did not stain and the pupil dilated *freely In spite of marked photophobia three hairs deeply embedded* in the cornea were visible An incision in the cornea to remove them rendered them invisible No hairs were seen in the conjunctiva and *no nodules appeared at any time*

Over a *period of five weeks there was gradual im*provement the hypopyon disappeared and the vitreous opacities decreased Slit lamp examination revealed many more hairs but no barbs could be made out

Three and a half month later the eye was white and vision was 6/6

According to Lawford there is usually marked immediate improvement followed by the recurrence of severe inflammation in a few weeks Typical *gray or yellowish nodules from 1 to 2 mm* in diameter occur in the ocular conjunctiva Serious impairment of vision may result but in none of the eight cases reviewed was the eye lost

SAMUEL A DUBB M D

Ling W P Interstitial Keratitis with Unusually Marked Chorioretinitis Pathologico Anatomical Examination of a Case *Arch Ophth* 1929 i 207

The case reported was that of a fourteen year-old boy who undoubtedly had *congenital lues* A a Mantoux test was positive tuberculosis may also have been a factor in the eye condition Only the left eye was intensely inflamed Enucleation was done as specific treatment failed to cause improvement

In the pathological examination of the removed eye neither pirochætes nor tubercle bacilli could be found The corneal changes were unusual all of the layers being involved Bowman s membrane was preserved but very irregular in thickness Only a small number of lymphocytes were seen in the cornea these were found along the course of newly formed blood vessels The nodules in the cornea were composed of proliferated fixed corneal cells The cornea showed no indication of even early scar *formation in spite of the fact that the disease had* been present for a year The region of Schlemm s canal was densely infiltrated with lymphocytes

In the anterior chamber there was a connective tissue membrane apparently attached to the pos*terior surface of the cornea This may have repre*sented the glass membrane seen clinically in other cases In the area in which it was found the corneal endothelium was absent a finding which supports Watanabe s theory of the origin of the membrane The vitreous was *practically normal but on the par*plana of the ciliary body there were lymphocytic nodules Extensive changes were noted in the choroid chiefly in the outer layers In many places they extended through the lamina vitrea without any *obvious break in the latter The oldest lesions were* in the posterior part of the choroid

The retina also was involved chiefly just over the choroidal foci The rods and cones were practically gone the two nuclear and ganglion cell layers were *atrophied and there was considerable perivascular* lymphocytic infiltration No proliferation of the vascular endothelium was noted Both choroid and retina were most affected in the area around the optic nerve There was marked infiltration in the *arachnoid*

No changes typical of acquired syphilis were found The sclera was affected by the corneal and choroidal lesions The corneal and choroidal changes had probably occurred simultaneously *There was no evidence of an exudate between the* retina and choroid SAMUEL A DUBB M D

Morton H McI Intracapsular Extraction without Iridectomy *Am J Ophth* 1929 xii 90

A brief sketch of the history of *intracapsular* extraction of cataracts is given *The author believes* that a round pupil is essential for an ideal cataract operation In his last twenty six *intracapsular* extractions he performed an iridectomy only once In the twenty five cases without an iridectomy the visual results were good In eighteen the pupils were perfectly round In seven there was iris incarceration but this seemed to have little effect upon the vision

In the author s *technique* a 8 *per cent cocaine* solution with adrenalin is instilled four times the lashes are cut the conjunctival sac is irrigated with a *1 to 1000* solution of bichloride of mercury and the conjunctiva is mechanically cleaned by vigorous rubbing *with cotton* soaked in the same solution Further irrigation is then done with sterile water The pupil is dilated by atropine unless there is increased *tension* The lids are controlled with a *speculum* The unmutilated iris helps materially to restrain vitreous prolapse but if prolapse occurs the *lids are immediately closed* The bandage is *left on for from* six to eight days unless the eye becomes painful SAMUEL A DUBB M D

author on the basis of a detailed description of the characteristic conditions which have been associated with the occurrence of endemic goiter in different parts of the world Adlercreutz states that the term endemic has acquired added significance as it is now applied not only to the classical cretinoid type of goiter seen at high altitudes but also to a number of goiters seen in low countries which are not associated with cretinism The endemic goiter of low countries occurs characteristically in regions rich in lakes or around certain waters and this characteristic is noted of the goiters in Finland

The Finnish goiter may evidently be considered endemic in the region of the lake plateau and the Ladoga district It is of the type seen in the low lands which is rarely accompanied by cretinism and more frequently is associated with Basedow s disease because it develops almost exclusively in women and rarely reaches a large size Its greatest incidence is probably in the Ladoga district where it formerly may have been more severe and may have suggested the cretinoid type of high altitudes

It is generally believed in different parts of the world that goiter has become more common during recent years but the correctness of this theory as applied to Finland could not be determined from the replies to the questionnaire It appears however that in the Ladoga district the frequency of goiter has spontaneously diminished

The author s determinations of iodine waters were made in well water (ground water) lake and spring water (surface water) and tap water of certain cities (partly ground water and partly lake or stream water) according to the Chatin von Fellenberg method The water came from sixty localities but none was obtained from the most northern part of Finland

In the water from inland regions the iodine content was found to vary between 0 and 0 4 gm per liter In only a few instances did it exceed 0 4 gm In the water from the coastal regions on the other hand it usually exceeded 0 4 gm The well water from the coastal plains of the Gulf of Bothnia usually showed higher values (more than 0 6 gm) than the well water from the coastland of the Gulf of Finland (0.4 to 0 6 gm) This difference is apparently due to the distribution of the Litorina aluminum which is most plentiful in Oesterbotten rich in iron and apparently relatively rich in iodine as it is deposited in salt water and favors fossil formations The glacial aluminum predominating at the southern coast and at Åland is probably iodized to a considerably less extent as it is deposited in fresh water dissolves fossil organisms and is not so rich in iron

The observation of Chatin and von Fellenberg that river water is generally richer in iodine than spring water could not be confirmed in the author s studies In many places in Finland the reverse relationship seems more probable

In a few cases temporary variations in the iodine content in one and the same spring or river were found but apparently were of little importance

Some of the tests on tap water were made in cities in which the drinking water is subjected to chemical cleansing before it is pumped into the mains It appears that the use of a method to remove iron also eliminates some of the iodine from the water It is uncertain whether hypochlorite sterilization exerts an influence on the iodine content of water

Chatin s rule that waters rich in iron are always rich in iodine has been found to be correct to a certain extent No relationship between the iodine content and the amount of chlorine or the amount of calcium and magnesium salts has been noted, but as only gross quantitative estimations of these elements were made it is impossible to draw definite conclusions

A comparison between the distribution of goiter and the occurrence of iodine suggested an inverse relationship between them when the relationships were considered grossly In a detailed study however certain deviations were found especially at Vetil Vartsila and the north and northwest coast of Lake Ladoga (Impilaks) At Vetil the iodine content is apparently low in both the goiter region and the surrounding goiter free region At Vartsila and at the Ladoga coast a relatively rich iodine content in the water is associated with an endemic distribution of goiter

The question as to whether the theory of iodine deficiency is applicable to Finnish goiter is discussed This and other theories of the etiology of goiter are dealt with in a special chapter and the more or less serious objections which have been raised against the conception of an exogenic iodine deficiency as a cause of goiter are reviewed The exceptions found at Vetil Vartsila and the Ladoga coast suggest that in these regions such an etiological factor cannot be considered

For numerous reasons it appears uncertain whether an iodine deficiency can be regarded as a direct cause of goiter The inverse relationship between iodine and goiter in nature that has been found in Finland and the deviations from this rule may perhaps be best explained by the assumption that iodine deficiency is of importance only as an indirect and not as a direct causal factor

McCarrison s theory that goiter is due to multiple causes appears the most probable Regionally the causes are apparently of different types and perhaps also of different intensity this perhaps explaining why there is no uniform endemic type of goiter

LOUIS NEUWELT M D

Rose E Cardiovascular Disease Associated with Non Toxic Goiter *Med Clin N Am* 1929 xii 1157

The author reports two cases of thyroid enlargement associated with definite evidence of cardiovascular disease In one case the phenomena of decompensation were present and in the other there was a persistent tachycardia with hypertension arteriosclerosis and a minor grade of heart block In neither case was there any compression of the trachea by the

four well-defined groups for each of which a special type of operation is necessary

1 Superior group—growths of the epiglottis or the glosso epiglottic fossa

2 Lateral group—growths primary in one of three situations (a) the aryepiglottic fold (b) the pyriform sinus (c) the lateral pharyngeal wall

3 Posterior group—growths of the posterior pharyngeal wall

4 Inferior group—growths of the postericoid pharynx

From the technical point of view the last two groups are definitely marked off from the first two as a successful operation upon them must necessarily include a definite plastic procedure to replace the excised part These two groups therefore fall into a distinct chapter of surgery of the pharynx and are not discussed by the author

Trotter prefers sharp dissection to diathermy because of the finer technique possible with the scalpel In cases of growths of the superior group gland dissection may precede or follow the operation In cases of growths of the lateral type the glands may be removed concurrently with the operation on the growth or later Bilateral removal of the lymph glands is not necessary unilateral removal gives excellent results Sepsis is a source of danger The best prophylaxis against it is an edentulous mouth A tracheotomy with a circular opening precedes the operations

For growths of the superior group the author performs a median (anterior) translingual pharyngotomy The incision passes exactly in the median line through the lower lip and the chin to the tip of the thyroid cartilage Following the interval between the geniohyoid muscles the lower jaw is sawed in two the tongue divided and the floor of the mouth split The neoplasm then comes into the field and excision is begun by lateral dissection until it is separated from the tongue It is then pulled upward and after division of the aryepiglottic folds the epiglottis containing the tumor is divided transversely just above the neoplasm outward The hyoid bone to which the growth is still attached is disarticulated from the greater cornua and the tumor is freed Closure is usually easily accomplished between the tongue and larynx and the midline incision of the tongue and lip is sutured The submental wound is left open for drainage

For lateral epithelomata the approach is made through a 4 to 5 cm vertical incision running downward from a point behind the angle of the jaw Gland dissection may be performed at this time and the external jugular vein removed The pharynx is then exposed by vertical division of the infrahyoid muscles the superior laryngeal vessels and nerve are divided and the great cornu of the hyoid and the ala of the thyroid are exposed If the growth has not involved the cartilage these structures are divided vertically and removed If the cartilage is involved the ala must be removed with the growth Depending upon the site of the tumor an appropriate incision is made into the pharynx and the growth removed under direct vision The wound in the pharynx may be closed primarily but the skin incision is left open If pharyngeal closure cannot be made the edges of the mucosa are sutured to the skin The resulting fistula can be closed easily after three or four weeks

In all cases the patient is fed through a rubber catheter for a few weeks until normal swallowing is possible The tracheotomy tube remains in for about a week JAMES C BRASWELL M D

NECK

Cole W H Womack N A and Gray S H The Thyroid In Infections and Toxæmias *Am J Surg* 1929 7 221

Following severe infections and toxæmias changes take place in the human thyroid which are similar to those appearing in the thyroids of animals but less marked The characteristic changes are a loss of colloid hyperplasia and squamation of acinous cells and a decrease in the iodine content of the thyroid Iodine given by mouth is absorbed by the thyroid glands of persons with exophthalmic goiter adenomatous goiter and normal thyroids The injection of lipiodol into the lungs of two patients with lung abscess and bronchiectasis produced a decided rise in the iodine content of the thyroid gland a result suggesting that iodine can be absorbed from lipiodol Hyperplasia similar to that seen in exophthalmic goiter is not uncommonly found in the thyroid glands of persons dying from acute infections W M PATON M D

***Adlercreutz E* Studies on Goiter and Iodine in Finland** (Kropf und Joduntersuchungen in Finnland) *Acta med Scand* 1928 lxix 187 325

This report is based on the replies to a questionnaire sent to physicians regarding the distribution of goiter in Finland and on the results of iodine determinations in various fresh waters

Almost all of the districts in which the incidence of goiter was reported as common lie in the south and middle parts of Finland Those in which goiter is next most frequent are in the area having the greatest number of lakes the so called major lake plateau Goiter is very common also in a number of districts in the region of Lake Ladoga especially on the north and northwest coast of this lake It is infrequent at the seacoast but somewhat more common at the coastland of the Finnish Gulf and in Åland In most of the east Bothnian areas it is rare In north Finland (Lapland) it occurs seldom if ever

The fact that goiter is most common in the portion of the country with the greatest number of lakes is in accordance with observations in other parts of the world A grouping of the cases around certain lakes streams and brooks appears probable

The questions as to whether the Finnish goiter can be considered endemic and if so to which types of endemic goiter it belongs are discussed by the

tuberculosis which have been employed since Mermod recommended the use of the galvanocautery

In discussing the pathogenesis of laryngeal tuberculosis the author reviews an earlier communication in which he presented evidence indicating that as a rule tuberculous infection of the larynx occurs by way of the blood stream from tuberculosis primary in the lungs He believes however that the sputum plays an important part in irritating the lesion already established by the organisms of secondary infection which usually accompany the tubercle bacilli in the sputum

The treatment must be directed toward the pulmonary tuberculosis and the general condition as well as toward the laryngeal lesion The general treatment must include complete rest fresh air and proper nourishment To these may be added pneumothorax according to Forlanini's method The hygieno dietetic cure should be ordered for every patient who can afford it

Of forty eight patients treated by the author by ignipuncture since 1910 eight recovered and were followed for from ten to fifteen years All of these patients except one who at the same time followed a rest and fresh air cure in the country were ambulants

Local treatment of the laryngeal lesion includes the silence cure laryngotracheal instillations with tracheofistulization and artificial pneumothorax The silence cure places the affected parts at rest but is difficult to apply in hospital cases and is practically impossible to apply in ambulant cases In two cases of periglottic laryngitis seen by Caboche the condition responded to instillations of medicaments by means of a cannula through the cricothyroid membrane Even if certain cases of secondary tuberculous infection of the fistula are not taken into consideration Caboche is of the opinion that instillation through the natural passages gives results as good as those obtained with tracheofistulization However tracheofistulization is of value when ignipuncture or a local operation must be undertaken on an infected larynx on account of stenosis The solutions injected either *en masse* or drop by drop are gomenol oil (5 to 20 per cent) creosote oil (2 to 5 per cent) or oil of vanilla essence

According to numerous reports pneumothorax is of value in laryngeal tuberculosis and when used in the treatment of pulmonary tuberculosis it tends to prevent the development of tuberculosis of the larynx The author reports in detail four cases of laryngeal tuberculosis in children which were successfully treated by artificial pneumothorax and were followed for more than a year after the treatment

Surgical treatment by laryngectomy and laryngofissure followed by curettage of the exposed lesions is to be rejected Tracheotomy cures a certain number of cases but in many more it aggravates the condition It is indicated only when asphyxia threatens or as a measure of prudence before an endolaryngeal operation Tracheofistulization serves the same purposes better Intubation is used only during or following a local operation In cases of progressive tuberculous stenosis it is too traumatizing Resection of the recurrent laryngeal nerve has been done for the purpose of immobilizing the larynx Endolaryngeal surgery has been largely abandoned

With the galvanocautery it is possible to obtain a destructive and a sclerosing effect The cauterization is also hæmostatic It is extremely easy and its results are unquestionably good The treatments may be so spaced as to cause the patient very little fatigue The effect on the dysphagia is often remarkable

The results obtained by general irradiation with the arc lamp according to the Danish method or by irradiation of the neck with the quartz lamp according to Philips's method show that these procedures are among the most efficacious The Worms treatment has better effects if it is combined with ignipuncture Actinotherapy is not always without danger The benefits of heliotherapy are undeniable Malstrom obtained improvement from local injections of an aqueous extract of irradiated oil Radiotherapy of laryngeal tuberculosis is still an uncertain method The indication for diathermocoagulation is limited to the non progressive forms of laryngeal tuberculosis limited epiglottitis without involvement of the aryteno epiglottic folds vegetations and tuberculomata The use of the high frequency current promises to be a simple procedure for the treatment of tuberculosis of the larynx Hot air therapy has been very little employed and its results are not convincing Cinnamic benzyl ether given by intramuscular injection is at least a harmless adjuvant The author reports six cases treated by such injections Gold salts may also be of value

Tuberculin is dangerous The methylic antigen of Boquet and Negre is a valuable aid Three cases in which it was used are reported The application of cod liver oil often results in cicatrization of the ulceration and relief of the œdema and dysphagia

In the treatment of the pain the galvanocautery gives the best results Diathermocauterization actinotherapy heliotherapy and roentgenotherapy are also of value The high frequency current seems to have a marked analgesic effect Decortication of the laryngeal mucosa has been suggested by Saupiquet Physiological blocking of the superior laryngeal nerve by the injection of alcohol around the trunk is not dependable and sometimes produces laryngeal œdema Neurotomy of the superior laryngeal nerve has not given good results

The indications and contra indications for the various treatments are discussed in detail and the article is supplemented by an extensive bibliography

LACE

Mackenty J E Laryngeal Cancer Early Diagnosis and Treatment *Arch Otolaryngol* 1929 ix 37

Mackenty states that malignant disease of the larynx is becoming more frequent and developing much earlier in life than formerly

enlarged thyroid or any evidence of toxicity such as signs of an increase in the metabolic rate

While the association of heart disease with the enlargement of the thyroid may have been merely a coincidence it is possible that there was some relationship between the two conditions In a study of 300 cases of adenomatous goiter with a normal basal metabolic rate in persons over twenty years of age Coller found that the incidence of cardiac enlargement tachycardia auricular fibrillation and suggestive symptoms such as palpitation and dyspnœa increased progressively from the third to the sixth decade While the heart disease may have been due to other causes than the thyroid condition its incidence was much greater in this group than in ordinary groups of persons in the same decades of life To explain the greater incidence in these cases it is suggested that some of the cardiac damage may have been done during mild exacerbations of hyperthyroidism which went unnoticed or to a secretion directly toxic to the cardiovascular apparatus but not associated with an increase in the metabolic rate As yet however such a toxic substance is not known The pressure of an enlarged thyroid on the trachea accounts for only a few cases of cardiac damage

The author believes that persisting or increasing thyroid enlargement in adult life particularly when the goiter is nodular or firm constitutes a potential menace to the cardiovascular system and should be treated surgically MANUEL E LICHTENSTEIN M D

Mora J M The Intracutaneous Salt Solution Test in Thyrotoxicosis *In J M Sc* 1929 clxxvii 219

Mora studied the McClure Aldrich test in forty two cases of thyrotoxicosis before and after operation Before operation he observed a definite decrease in the disappearance time of the intradermally injected saline solution After operation with the return of the basal metabolic rate and the general condition to normal the disappearance time also became normal In general the greater the toxæmia the less the time required for the wheal to disappear The disappearance time of the injected saline solution paralleled the basal metabolic rate as an index of the severity of the thyrotoxicosis

The test has been found of value in following cases of nephritic œdema in determining the need of the tissues for water and in establishing the level of adequate circulation in circulatory disturbances of the extremities

Coller F A Adenoma and Cancer of the Thyroid Their Relation in Ninety Epithelial Neoplasms of the Thyroid *J A M Ass* 1929 xcii 457

Four per cent of the thyroids removed surgically during the fifteen year period from 1911 to 1927 were found to contain malignant neoplasms of the epithelial type In 75 per cent of these there was a history of goiter Microscopic examination showed the goiters to be of the endemic type in all except one case Histologically 28 per cent of the tumors were medullary carcinomata 66 per cent adenocarcinomata and 5 5 per cent scirrhous carcinomata A large number of adenocarcinomata were confined to adenomata

The chief symptoms were those associated with hyperthyroidism Next in frequency were pressure symptoms Rapid growth was noted in only 15 per cent In 46 per cent of the cases in which a basal metabolism test was made the metabolic rate was found to be high A correct pre-operative diagnosis was made in only 25 per cent of the cases In 47 per cent the condition was unsuspected

The author concludes that adenoma of the thyroid is a precancerous lesion in which the incidence of malignancy is low but definite W M PATON M D

Haines S F and Boothby W M The Value of Oxygen Treatment After Thyroidectomy *Am J Surg* 1929 vi 1

This article is based on a study of 91 cases of serious reactions following partial thyroidectomy which were treated with oxygen In 57 cases the operation was performed for exophthalmic goiter in 27 cases for a hyperfunctioning adenoma in 4 cases for adenomatous goiter without hyperthyroidism and in 1 case for carcinoma of the thyroid As a rule the concentration of oxygen in the oxygen chamber ranged from 50 to 60 per cent Sixty seven patients lived

The most striking effect noted was the drop in the temperature following the patient's admission to the chamber This occurred in 75 cases and varied between 1 and 6 5 degrees F in the first twelve hours It was most marked in cases of pulmonary œdema and bronchopneumonia Dyspnœa due to pneumonia or obstruction of the upper respiratory tract was greatly relieved by the oxygen tracheotomy often being rendered unnecessary All cases of cyanosis were markedly benefited In a few cases of extensive pneumonia however the improvement was transitory and the patient died Autopsy in these cases demonstrated more extensive pulmonary involvement than was expected This was not due to the oxygen treatment but developed in spite of it

The oxygen tent has proved to be less satisfactory than the oxygen chamber because of difficulty in controlling the patient and the percentage of oxygen in the tent

A direct comparison of the mortality rate in the treated and untreated cases was not found feasible The surgical mortality rate has been less than 1 per cent for several years and in the opinion of the authors this rate has been definitely lowered in the last two years as a result of the oxygen treatment

Four typical cases treated with oxygen are reported in detail WILLIAM J FICKETT M D

Caboche H Therapeutic Indications in Laryngeal Tuberculosis (Indications thérapeutiques dans la tuberculose laryngée) *Arch internat d'laryng* 1928 xxxix 89

This article (98 pages long) compares the results of the different procedures for treating laryngeal

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Stulz E and Stricker P Closed Traumatisms of the Cranium Followed by Acute Hypotension of the Cerebrospinal Fluid Their Treatment by Intravenous Injections of Distilled Water (Traumatismes fermés du crane suivis d hypotension aiguë du liquide cephalorachidien leur traitement par les injections intraveineuses d eau distillée) *Bull et mém Soc nat de chir* 1928 liv 1184

The authors report five cases of primary hypotension of the cerebrospinal fluid and three cases of hypotension developing some time after an attack of hypertension after a closed injury of the skull *The treatment consisted in the intravenous injection* of distilled water All of the patients recovered In some of the cases of primary hypotension improvement was apparent after the first injection In the others a repetition of the dose (20 c cm) was necessary In one case the hypotension was accompanied by diabetes which was very clearly influenced by extract of the posterior lobe of the hypophysis The symptoms in the cases of primary hypotension were torpor headache vertigo pain at the nape of the neck and incomplete coma

In hypotension developing some time after an attack of hypertension caused by cranial trauma the diagnosis is very difficult Often it is impossible without lumbar puncture In the three cases reported injections of 40 c cm of distilled water were efficacious relieving the symptoms of headache vomiting slow pulse and torpor

Patients with bradycardia never showed a very rapid increase in the pulse rate after the injection of distilled water although the symptoms were alleviated It therefore appears that bradycardia must be due to some condition other than the tension of the cerebrospinal fluid Hyperthermia is frequent in acute hypertension of the cerebrospinal fluid The authors report two cases in which there was hyperthermia with hypotension When the leakage of cerebrospinal fluid from the wound was stopped the temperature immediately fell to normal PACE

Cushing H and Eisenhardt L Meningiomata Arising from the Tuberculum Sellæ with the Syndrome of Primary Optic Atrophy and Bitemporal Field Defects Combined with a Normal Sella Turcica in a Middle Aged Person *Arch Ophth* 1929 i 1 168

The meningiomata discussed by the authors betray their presence by a characteristic syndrome in the early stages Although they vary somewhat in gross appearance microscopical structure rate of growth and situation they are strikingly similar in their sites of origin and train of symptoms The authors report fifteen cases quite fully with photographs of the patients and pathological tissue removed the perimetric charts before and after operation roentgenograms of the skull and drawings of the operative field Eleven of the patients were females The ages ranged from twenty seven to sixty six years Only two patients were under thirty three years of age and only one was more than fifty seven years old

The essential features of the syndrome were failing vision primary optic atrophy and bitemporal hemianopsia with a sella turcica of normal size The duration of the symptoms varied from seven months to twelve years In only four cases were the symptoms *present for longer than two years* The sella turcica was normal in ten cases In four cases it showed erosion and in one case it was enlarged Surgical removal by the extradural transfrontal route was complete in nine cases incomplete in five cases and not attempted in one case There were three operative deaths—one from œdema one from medullary pressure and one from hæmorrhage Two deaths occurred in advanced cases The period of postoperative observation varied from ten months to twelve years Most of the patients had been examined over a period of from two to four years

Meningiomata arising from the tuberculum sellæ are rather tough and fibrous and present a granular mulberry like surface They are slow growing having a comparatively feeble blood supply and tend to become psammomatous (33 per cent of the cases) Frequently (27 per cent of the cases) they possess a greater number of collagenic fibers than the more rapidly growing smooth surfaced meningiomata arising from the vault Cases of such tumors may be grouped as (1) presymptomatic (2) surgically favorable and (3) advanced or surgically unfavorable As the tumor becomes larger it pushes the optic chiasm upward and backward and in the later stages produces secondary symptoms from pressure on the adjoining structures

Meningiomata are intimately attached to the dura The attachment should be removed if possible to prevent recurrence However such a clean removal was not attempted in any of the reported cases and the fact that one patient survived twelve years shows that recurrence does not always develop early Although the hemianopsia is a bilateral temporal defect it is usually unequal As a rule one side is partially or totally blind The nerves seem to suffer more than the chiasm as the restoration of function is in the crossed bundle with return of temporal vision

The principal lesions to be considered in the differential diagnosis are (1) meningiomata of

From the standpoint of prognosis the location of the tumor is of extreme importance According to their location the lesions are classified as extrinsic intrinsic and borderline intrinsic The extrinsic cancer rarely gives warning of its presence until it is well advanced Of the intrinsic cancers 90 per cent cause voice changes

In the differential diagnosis it is necessary to rule out tuberculosis syphilis chronic inflammations benign neoplasms paralysis and prolapse of the ventricle of the larynx

In the treatment the best results are obtained by total laryngectomy Its mortality is about 3 per cent The author prefers the single stage operation performed under combined local and general anæsthesia

Of over 700 laryngeal cancers studied 80 per cent were intrinsic and curable in the beginning Two hundred and thirty were treated surgically with a mortality below 3 per cent

In incipient cases of intrinsic cancer the incidence of recurrence was 3 per cent after laryngectomy and 35 per cent after thyrotomy In moderately advanced cases recurrences developed in 25 per cent and in borderline cases in 35 per cent In cases of extrinsic cancer recurrences developed in almost 100 per cent

The author believes that if the public were instructed regarding the danger of progressive hoarseness and if early and complete extirpation of the tumor were done and the use of radium abandoned the results in cases of laryngeal cancer would be greatly improved GEORGE R MCAULIFF M D

Brémond M and Bonnet P A Case of Cancer of the Larynx in a Girl Fourteen Years of Age (Un cas de cancer du larynx chez une fillette de 14 ans) *Arch internat de laryngol* 1928 xxxiv 1014

The patient whose case is reported entered the hospital complaining of a pulling sensation in the throat which had developed gradually over a period of two weeks Laryngoscopic examination revealed budding grayish ulcerations on the arytenoid and the right vocal cord which at the level of the anterior commissure seemed to extend to the opposite side Palpation revealed no adenopathy The child experienced no difficulty in swallowing but had the woody whispered voice to which attention has been called by Fauvel

Because of the patient's age there was some doubt as to whether the lesion was cancer The patient's family history revealed nothing of interest A portion of the tumor was taken for microscopic examination

Six days after the patient's entrance to the hospital the dyspnœa and drawing sensation became more severe and a low tracheotomy was done The general condition rapidly deteriorated The patient became very thin and showed an earthy color The histological diagnosis was epidermoid epithelioma completely differentiated with nuclear anomalies and very numerous normal or pluripolar mitoses The lymphoid stroma was scarcely delineated The lesion was a cancer in the initial stages with active and histologically very malignant proliferations

A total laryngectomy was done according to Sebileau's technique and on completion of the operation a cannula was left in the trachea The wound healed by first intention The patient gained weight and her general condition showed marked improvement At the end of three months a budding growth appeared in the peritracheal tissues around the cannula Biopsy revealed an atypical spinocellular epithelioma a weak fibrous reaction of the stroma beginning disintegration and massive cellular destruction Radium was applied but the child lost ground rapidly An ulceration transformed the operative zone into an extensive opening Normal feeding became impossible and resort was had to nasal feeding The child's condition at the present time may be considered incurable Radium therapy gave no results The extensive ulceration was due to radium necrosis possibly favored by secondary radiations due to the presence of the metallic cannula It was found impossible to replace the cannula with a rubber tube PACE

All of the patients recovered In six of the cases of Little s disease there was a decrease in the spas ticity but in only two was it sufficient to be of any great benefit After ten years one of the patients was able to walk without a cane indoors and with a cane outdoors Another was able to walk with two canes at the end of six months but has not been seen since then

Most of the cases were very severe ones with in volvement of the brain serious spasticity of the upper extremities and very marked deformity of the feet In the future in such cases the author will section only the obturator nerves by the crural route and give the usual orthopedic treatment He states that if Foerster s radicotomy is to be success ful the child must be intelligent enough to be re educated and the patient s family must understand the necessity for exercise

Leriche performed ramisection four times in three cases of Little s disease In one case there was a manifest physiological effect but the immediate therapeutic effect was not very great However the patient was not re educated and not followed up In another case the subjective result was excellent at the end of a year but the objective change was not very great Leriche states that there is often very marked subjective improvement after operations on the sympathetic In the third case the patient was benefited so much by the operation on one side that she came back requesting an operation on the other side The second operation however relieved only the coldness of the foot

These cases do not permit judgment as to the value of the operation because the patients were too old being sixteen twenty and twenty three years of age At such ages there are probably definite ana tomical changes rendering treatment difficult

On the whole the results of surgery in Little s disease are not very good For operation to be of any benefit the cases must be carefully selected It may be perhaps impossible to obtain successful re sults by surgery after the fifteenth year of age

American surgeons have a tendency to reject posterior radicotomy and ramisection in favor of Stoffel s operation but the author thinks their con clusions are based more on theory than on experi ence In Leriche s opinion Stoffel s operation is adapted only to mild cases in which the spasticity is not very great—cases such as are ordinarily treated in France by orthopedic operations If there is a marked degree of spasticity posterior radicotomy and ramisection are the best methods of reducing the spasticity at once and making re education im mediately possible The best time for operation is probably the eighth year of age

AUDREY G MORGAN M D

parasellar rather than suprasellar origin (2) pituitary adenomata (3) congenital tumors arising from the craniopharyngeal pouch (4) gliomata of the chiasm and third ventricle (5) chronic local arachnoiditis (6) syphilitic meningitis and (7) aneurism In the diagnosis of meningiomata the chief difficulty is experienced in cases of late large lesions in which the primary symptoms are masked In cases of pituitary adenoma the sella is usually enlarged Tumors of the craniopharyngeal pouch being congenital show up early in life and are commonly associated with dyspituitarism enlargement of the sella and calcification in the cyst walls which is usually revealed in the roentgenograms Gliomata of the chiasm are rare They may distort the anterior clinoid processes with widening of one or both optic foramina and result in field defects not bitemporal in type Gummatous meningitis is rare but chronic cystic arachnoiditis not uncommon in this location Aneurisms in this region should not be difficult to diagnose as they are apt to cause oculomotor palsies and other characteristic symptoms

Unquestionably the tumors under discussion are far more common than has been supposed The prognosis depends on the treatment Operation is the only suitable procedure as the tumors are not influenced by radiation The operative risks are death from trauma or hæmorrhage further damage to vision from trauma to the nerves and postoperative diabetes insipidus With increased experience in the diagnosis and operative attack these risks should be reduced to the minimum

The surgical approach is described and shown in four drawings It is the authors well known transfrontal approach with the formation of an osteoplastic flap hinged laterally usually on the right side Special care must be exercised to avoid further injury to the already flattened optic nerves The tumor can often be removed piecemeal in its entirety but great care must be taken not to injure the infundibular stalk or the adjacent blood sinuses Local anæsthesia is usually sufficient The latest developments in electrosurgery have greatly facilitated the removal of the tumors

ALBERT S CRAWFORD M D

SPINAL CORD AND ITS COVERINGS

Craig W McK Spina Bifida Pre Operative Surgical and Postoperative Treatment *Surg Clin N Am* 1929 ix 219

The author discusses briefly the types or degrees of spina bifida and their complications The most marked type with an open central canal and protrusion of the cord into the sac is practically incompatible with life In cases of the less marked varieties operation should be delayed until the child is between nine months and two years of age In the meantime the sac must be protected by a cotton doughnut and too great thinning of the covering skin must be prevented by aspirating the sac at intervals The operation should consist in plastic repair of the sac followed by repeated lumbar punctures to prevent hydrocephalus Precautions against hyperthermia must be taken as a temperature of 105 degrees F cannot be combated successfully LEO M DAVIDOFF M D

SYMPATHETIC NERVES

Voncken Remote Results (After Five and Four Years) of Arterial Sympathectomy in the Treatment of Trophic and Painful Disturbances Following Frostbite (Résultats éloignés—cinq et quatre ans—de la sympathectomie artérielle dans le traitement des troubles trophiques et douloureux consécutifs aux gelures) *Bull et mém Soc nat de chir* 1928 liv 1182

The first case reported was a case of trophic and painful disturbances in the foot due to frostbite for which Voncken and Guimy performed a periarterial sympathectomy in 1921 At the end of a month the foot was in perfect condition In July 1926 five years later there was no trace of ulceration the skin was smooth and there was no pain While the patient complained of a feeling of fatigue in the leg after walking and a dull pain in the metatarsus objectively there was no difference between the two feet The temperature and mobility of both were the same

The second case was that of a war veteran who had both feet frozen and lost all of his toes In 1923 the right foot showed an extensive weeping ulceration along the external border of the right foot and another at the extremity of the amputated stump at the first and second metatarsals On the left foot there was a fragile bluish external cicatrice with many weeping fissures In both feet there were frequent lancinating pains On the right side Voncken performed a perifemoral sympathectomy at the summit of Scarpa triangle under local anæsthesia In a few days both ulcerations had disappeared and cicatrization was obtained In 1927 four years later the right foot showed two hard epidermal crusts at the sites of the previous ulcers but elsewhere the skin was supple and normal there was no pain whatever In the left foot which was not treated surgically there was intermittent pain and the fragile cicatrices were still present The Lachon measurements in the feet were compared and a second operation recommended

From these and other cases Voncken concludes that the remote results of periarterial sympathectomy for the sequelæ of frostbite are excellent

LACE

Leriche R The Results of Posterior Radicotomy and Ramisection in Little s Disease (Résultats de la radicotomie postérieure et de la ramisection dans la maladie de Little) *Bull et mém Soc nat de chir* 1928 liv 1496

The author has performed a posterior radicotomy or ramisection in nine cases of Little s disease and one case of spastic paralysis following meningitis

Coryllos P N and Birnbaum G L Lobar Pneumonia Considered as Pneumococcic Lobar Atelectasis of the Lung Bronchoscopic Investigation *Arch Surg* 1929 xviii 197

Lee W E Tucker G Ravdin I S and Pendergrass E *Experimental* Atelectasis *Arch Surg* 1929 xviii 242

Berry F B Massive Atelectasis Complicating Paravertebral Thoracoplasty for Pulmonary Tuberculosis *Arch Surg* 1929 xviii 25

Coryllos and Birnbaum state that for the development of the acute syndrome known as lobar pneumonia another factor besides the presence of pneumococci is necessary viz occlusion of a bronchus by the pneumococcic bronchial exudate which is very viscid and has a high fibrin content This marks the onset of the clinical syndrome in which the clinical features of acute obstructive atelectasis are combined with those of acute pneumococcic cellulitis

In its inception lobar pneumonia presents roentgenographic and auscultatory findings of a lobar atelectasis which appears to proceed from the periphery to the center of the lobe Simultaneously the roentgen and physical signs of the pneumococcic cellulitis spread from the central infectious plug to the periphery of the lobe by way of the lymphatic and interstitial tissue Engorgement red and gray hepatization and resolution follow one another from the center to the periphery Resolution follows the same course through the lobe These facts explain why the roentgen signs precede the clinical signs and persist after the disappearance of the clinical signs

The crisis is due to the sudden liberation of a large bronchus and the disintegration of the fibrinous exudate after which the lobe is rapidly freed of the pneumococcic exudate If the liberation is gradual the healing occurs by lysis but if the obstruction of the bronchus is prolonged unresolved pneumonia postpneumonic abscess or bronchiectatic lesions will follow

The localization of pneumococcic atelectasis is dependent upon the laws governing the localization of massive atelectasis For purely mechanical reasons pneumococcic atelectasis is more frequent in the inferior lobes

Postoperative lobar pneumonia begins as lobar atelectasis in which the relatively sterile occluding mucus becomes infected secondarily The further evolution of the disease depends upon the type of pneumococcus infecting the obstructing mucus and the length of time the obstruction remains in the bronchus

The difference between massive and patchy atelectasis depends upon the size of the obstructed bronchus as does that between lobar pneumonia and lobular or bronchopneumonia

The importance of the ciliated epithelium lining the bronchi as a factor in the production of the occlusion of a bronchus has not been sufficiently investigated A decrease or inhibition of the movement of the cilia would explain the rapid onset of pneumonia following exposure to cold By the same mechanism acute infections of the upper part of the respiratory tract may favor the development by their deleterious effects on the ciliated epithelium

In support of their conception of lobar pneumonia the authors review a large number of experimental investigations In experiments on dogs lobar pneumonia was produced by the intratracheal insufflation of a concentrated culture of pneumococci but was not produced by the simple intravenous injection or the transthoracic injection of pneumococci In every case of experimental pneumonia in the dog clinical symptoms and roentgen signs of massive atelectasis were present

It was found that mechanical occlusion of a bronchus previously insufflated with pneumococcus culture increased the toxicity of the disease This suggests that the growth of the pneumococcus is favored and its virulence is increased by the obstruction of a bronchus It was found that the growth of pneumococcus is favored by partial reduction of the oxygen tension

Removal of the bronchial obstruction or aspiration of the bronchial exudate after the development of pneumonia failed to cause the striking changes in the physical signs and clinical solution that occurred in experimental massive atelectasis There are two reasons for this The first is that when pneumonia develops in the dog it is lethal and the second that the resistance of animals to pneumococcic infection is so variable that it is difficult to interpret the effects of the relief of bronchial obstruction

The authors discuss the etiological factors in the production of lobar pneumonia in man the findings of a comparative pathological study of massive atelectasis and lobar pneumonia the clinical evolution of the disease and the roentgen observations and diagnostic difficulties in lobar pneumonia and massive atelectasis particularly postoperative pneumonia

Bronchoscopic treatment was performed on nine patients with lobar pneumonia The result was encouraging but the number of tests was too small to warrant definite deductions

The article is summarized as follows

1 A new conception of pneumonia has been presented based on experimental and clinical data

2 Lobar pneumonia is considered as an infectious (generally pneumococcic) lobar atelectasis of the lung

3 Postoperative massive atelectasis postoperative pneumonia and lobar pneumonia are shown to have a similar pathogenesis and evolution and clinical and roentgen signs

4 Bronchopneumonia is considered an infectious patchy atelectasis

Lee Tucker Ravdin and Pendergrass report that they have produced experimental massive atelectasis in dogs by introducing into the right main bronchus bronchial secretion removed from a clinical case of postoperative massive atelectasis

The lesion was reproduced at will also by the use of an acacia mixture with a viscosity similar to that

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Semb C Pathological Anatomical and Clinical Investigations of Fibro Adenomatosis Cystica Mammæ and Its Relation to Other Pathological Conditions in the Mamma Especially Cancer *Acta chirurg Scand* 1929 Supp X

Semb applies the term fibro adenomatosis cystica mammæ to the condition generally known in America as chronic mastitis From an extensive study of the clinical and pathological aspects of this condition he concludes that the process is a fibro epithelial hyperplasia which is neither inflammatory nor neoplastic He considers it a true simultaneous hyperplasia of epithelial and connective tissue elements because he has constantly found young connective tissue associated with new epithelium

In forty cases of the disease in the male breast which were studied by Semb the changes appeared identical with those found in the female breast except that there was no cyst formation

In the female breast Semb has recognized two distinct pathological types one of which he calls fibro adenomatosis simplex and the other of which he calls fibro adenomatosis cystica mammæ

In fibro adenomatosis simplex the presence of cysts may be demonstrated only by histological study In fibro adenomatosis cystica mammæ macroscopic cysts are found Forty four cases of the former type and 100 of the latter type are reviewed The fully developed form of the disease was bilateral in 22 per cent of the cases

Papillomata of the ducts occurred in 27 per cent of the cases of fibro adenomatosis cystica mammæ Four cases of papillary cystadenoma of the breast showed diffuse fibro adenomatosis cystica throughout the mammary gland Semb agrees with Cheatle that papillomata form within the breast on the basis of fibro adenomatosis cystica mammæ

In discussing the relationship between fibro adenomatosis cystica mammæ and carcinoma of the breast Semb approaches the subject from two angles (1) the presence of carcinoma in cases of fibro adenomatosis cystica mammæ and (2) the occurrence of fibro adenomatosis cystica mammæ in cases of mammary cancer

In forty four cases of fibro adenomatosis cystica mammæ in the early stages carcinoma was found only once Of cases with macroscopic cysts 14 per cent showed incipient cancer and 10 per cent showed fully developed cancer Cancer was found more often when papillomata were a feature of the cystic disease of the breast When epithelial proliferation was less marked and connective tissue proliferation more pronounced cancer was seldom found On the other hand the cases with a large amount of atypical proliferation of the epithelium and scanty connective tissue development showed a higher incidence of cancer Cancer developed from the ducts and cyst walls but never from the acini This observation is not in accord with Cheatle's findings which indicated that cancer has its origin in the acini

Of 122 cases of cancer of the breast in women fibro adenomatosis cystica mammæ was found in 77 per cent Semb believes that the concomitant occurrence of carcinoma and fibro adenomatosis cystica is not accidental but that the two conditions are closely related Because of the diffuse character of the fibro-adenomatosis cystica its appearance prior to the appearance of the cancer and the frequent occurrence of secondary foci of cancer in areas of fibro adenomatosis he concludes that the fibro adenomatosis is the primary lesion

Semb concludes that as fibro-adenomatosis cystica mammæ usually develops prior to the menopause it bears no relation to the involutionary changes occurring in mammary tissue incident to advancing age

For the majority of cases of fibro adenomatosis cystica mammæ—and especially those of women over thirty five years of age—Semb advises mastectomy

BURTON J LEE M D

TRACHEA LUNGS AND PLEURA

Llambias J and Tobias J W A Contribution to the Study of Bronchial Cancer (Contribución al estudio del cáncer bronquial) *Rev Asoc med argent* 1928 xli 717

The most common type of bronchial or bronchopulmonary cancer develops near the hilus of the lung in the terminal part of a main bronchus or one of its principal subdivisions At autopsy it is found in the form of a vegetating tumor which has infiltrated the bronchus and blocked the bronchial lumen or as a perforating ulcer which has destroyed the mucosa leaving cartilaginous rings exposed In both types there is neoplastic invasion of the peribronchial lymph glands

The authors report two cases of small bronchial cancers different from the types cited which they call peribronchial cancer In both cases X ray examination failed to indicate the nature of the condition and at autopsy a histological examination was necessary for the diagnosis Microscopic study showed the presence of neoplastic cells of bronchial origin which had infiltrated the bronchial wall and the peribronchial tissues without involving the mucous lining of the bronchus

WILLIAM R MEEKER M D

sists of rest in bed exposure to sunlight postural drainage the use of the bronchoscope measures to clean up the sinuses and possibly the use of vaccines In spirochætal infections neoarsphenamine is used at the time of operation there should be little or no acute parenchymatous involvement of the surrounding lung

The anæsthesia of choice is local anæsthesia supplemented by the use of nitrous oxide and oxygen under positive pressure (Bunnell apparatus) The incision is made between the seventh and eighth or the sixth and seventh ribs, and from one to three ribs are divided above posteriorly as indicated

The lung is mobilized by dividing adhesions and the pedicle is made as small as possible The pulmonary veins which lie below the bronchus are clamped in the early stages of the dissection to prevent emboli from entering the circulation The Wertheim hysterectomy clamp is used on the pedicle The lung is removed with the actual cautery a liberal stump being left and a running stitch of chromic catgut is taken back and forth across the stump to prevent further oozing and especially to prevent leakage of air through the bronchus The chest is then filled with salt solution and the pressure is increased to test the pedicle for leakage and hæmorrhage On closure of the chest wound a rubber tube is placed below the line of incision through a cannula

After the operation suction through the tube is employed every two hours for from five to seven days to allow the upper lobes to expand and wall off the cavity Irrigation with Dakin's solution is then begun As the pedicle sloughs the discharge becomes more purulent If there is a rise in the temperature at this time one or two ribs are removed for drainage

GEORGE V COLLETT M D

HEART AND PERICARDIUM

Hedblom C A Acquired Dextrocardia *Arch Surg* 1929 xviii 349

Acquired dextrocardia may be defined as a displacement to such an extent that the whole heart lies to the right of the left sternal border

Partial displacement to the right is frequently observed but according to reports in the literature complete acquired dextrocardia is relatively less common than congenital dextrocardia

Acquired dextrocardia may be due to pressure on the heart and mediastinum exerted from the left or to a pull from the right The pull to the right may be exerted directly by contracting bands attached directly to the pericardium by a shrinking lung fixed to the wall of the chest on the one side and to the pericardium on the other and by the negative pressure produced by the contracting cicatrizing or atelectatic lung The left lung is typically emphysematous and hypertrophied the emphysema and hypertrophy being compensatory

Cicatricial contraction of the lung of sufficient grade to produce an attraction dextrocardia is observed in fibroid phthisis following pneumonia particularly of the interstitial type in bronchiectasis with associated parenchymal suppuration and sclerosis and in carcinoma of the lung The author has observed three cases of carcinoma of the lung producing dextrocardia

In the literature there are reports of a few cases of left pleural effusion with dextrocardia in which the heart became fixed by adhesions and remained in its new position after the effusion cleared up

The most frequent cause of partial cardiac displacement is pulmonary tuberculosis Fishberg wrote that in advanced cases it is exceptional to find the heart in its normal place

The most characteristic symptoms of attraction dextrocardia are dyspnœa on relatively slight exertion cyanosis and tachycardia

The outstanding physical signs are a cardiac impulse to the right of the sternum a characteristic marked extensive inflammatory process of the right lung and emphysema of the left lung with absence of left cardiac dullness The cardiac impulse is often strongest on the right axillary line and may be felt best below the lower angle of the right scapula

Roentgenographic examination shows the heart shadow to the right and increased translucency of the emphysematous left lung On the right side the lung field is decreased the intercostal spaces are narrowed and the ribs slant more in the direction of the long axis of the body than on the left side

The differential diagnosis between congenital and acquired dextrocardia is based on the position of the abdominal viscera and on the electrocardiogram The acquired type gives normal electrocardiographic tracings while the congenital dextrocardia is said always to produce characteristic deviations

With regard to the treatment of acquired dextrocardia the author says When the right lung is so badly scarred that it shrinks to the extreme grade evidenced by the retraction of the mediastinum and the narrowing of the thoracic cavity the possibility of its ever resuming its respiratory function can be definitely excluded What more urgent indication can be cited for collapsing the wall of the chest to allow for this inevitable shrinkage and to relieve the tension on the mediastinal structures? If this is accepted in principle why should collapsing of the wall of the chest be deferred until a complete dextrocardia has developed?

HOWARD V MCKNIGHT M D

Ochsner A and Herrmann G R Experimental Surgical Relief of Experimentally Produced Pericardial Adhesions *Arch Surg* 1929 xviii 365

Shipley A M and Horine C F Experimental Pericarditis *Arch Surg* 1929 xviii 386

In experiments on animals carried out by OCHSNER and HERRMANN the pericardium was carefully opened inorganic or organic substances were injected into the pericardial cavity to stimulate the formation of adhesions the pericardium and chest

of the bronchial secretion removed from a clinical case of postoperative atelectasis The success of the experiments was due to abolition of the cough reflex in the dogs by the intraperitoneal injection of sodium amytal

In the first group of experiments all of the suspected etiological factors were included The dogs were narcotized with morphine and anæsthetized with ether An upper right rectus incision entering the abdominal cavity was made the wound was closed in layers and the lower chest and abdomen were strapped with adhesive plaster The animal was then placed on its right side and sodium amytal was injected intraperitoneally The injection resulted in profound anæsthesia with abolition of the cough reflex lasting from five to seven hours The synthetic material was introduced into the right main bronchus of the lung through a bronchoscope bronchial obstruction being produced

Within three hours massive atelectasis resulted with displacement of the heart to the affected side and elevation of the diaphragm corresponding to the variation in the negative pressure of the plural cavity which follows atelectasis

In the second group of experiments the suspected etiological factors were omitted only sodium amytal being given to abolish the cough reflex Obstruction was produced by introducing the acacia mixture into the main bronchus of the lobe in which atelectasis was to be produced Atelectasis was produced as successfully by this method as in the first group of experiments

In the third group of experiments massive atelectasis was produced in the same way with the addition of opaque substances to the acacia mixture to allow the roentgen demonstration of the obstructing material in the bronchus of the atelectatic lung

The authors conclude that it is impossible to produce bronchial obstruction in dogs unless the cough reflex is abolished and that this evidence is significant both experimentally and clinically

BERRY presents a detailed report of four cases of postoperative massive atelectasis following paravertebral thoracoplasty for pulmonary tuberculosis In two of the cases in which the condition developed in the contralateral lung death resulted

Postoperative pneumonia or massive atelectasis is caused by the aspiration of infective viscid material from the diseased area Following thoracoplasty such aspiration is favored by the weakness of the chest wall and the postoperative pain both of which interfere considerably with the mechanism and effectiveness of the cough reflex and expectoration

Various procedures have been recommended The two stage operation has been accepted Most surgeons follow the method of Sauerbruch and remove the lower ribs first to compress the lower lobe so that the chances of its infection by aspiration are diminished Lambert and Miller reverse this process believing that cough and expectoration will be more effective if the upper ribs are resected first Alexander recommends a phrenicotomy as the initial procedure to decrease the size of the lower lobe and favor cough A few weeks later he resects the upper ribs and if necessary still later the lower ribs Whenever possible he establishes a preliminary artificial pneumothorax to collapse the lower lobe and prevent aspiration following the initial removal of the upper ribs

After making a comparison with other series reported by various thoracic surgeons Berry states that the evidence seems to favor primary removal of the lower ribs for the prevention of postoperative complications In addition adequate relief from pain encouragement to cough and proper support on the side on which the operation was performed are important measures in the prevention of atelectasis or pneumonia

The statistics reviewed those of the clinics of Miller and Lambert are summarized as follows

1 Four cases of massive atelectasis following paravertebral thoracoplasty for pulmonary tuberculosis have been presented The mortality was 50 per cent

2 In addition in a series of 130 such operations on 93 patients postoperative pneumonia occurred in 5

3 The incidence of pneumonia in the entire number of operations was 3 8 per cent and the incidence of early complications in the lungs 6 9 per cent Two of the cases of pneumonia and one of the cases of massive atelectasis occurred following the single stage complete thoracoplasty The others followed the first stage operation in which the upper ribs were removed J EDWIN KIRKPATRICK M D

Stephani T and Stephani J Unsuccessful Pneumothrax Due to an Indirect Cause (Contribution à l etude du pneumothorax in pérant par ra son indirecte) *Arch y ld ch r de l appar respir* 1928 iii 370

Artificial pneumothorax may be rendered unsuccessful by late involvement of the contralateral side of the chest In some cases the invasion of the other lung is fulminating and fatal whereas in other cases after a stormy onset the condition clears up rapidly and there is prompt return to the original status of the disease

The authors report two cases in detail In the first there was an acute spread of the exudation to the opposite side with fever and marked clinical signs and X ray changes but the condition cleared up in ten days In the second the contralateral pread was sudden and ran a fatal course with pericardial involvement FRANK B BERRY M D

Brunn H Surgical Principles Underlying One Stage Lobectomy *Arch S rg* 1929 xvi 1 490

The author reports six cases in which a one stage lobectomy was done with only one death In five cases it was performed for bronchiectasis and in one case for malignancy

In cases of bronchiectasis the preliminary treatment extend over several months It usually con

rare The benign connective tissue tumors of the mediastinum include fibroleiomyomata xanthomata chondromata or chondromyxomata fibromata lipomata ganglioneuromata and hour glass tumors Most of these are rare but hour glass tumors arising from the spinal nerves are not infrequent The latter produce symptoms of cord and mediastinal compression Operation for hour glass tumors has yielded only fair results

The malignant tumors of the mediastinum include lymphomata lymphocytomata lymphosarcoma and Hodgkin s disease The simple lymphoma is rare The lymphocytoma is characterized by a predominance of small cells resembling lymphocytes Lymphosarcoma is the most common of the mediastinal tumors It fills up the space between the vessels surrounds the trachea and œsophagus involves the pleura and lungs and metastasizes early Hodgkin s disease rarely begins in the mediastinum As a rule it is easily recognized

With regard to the thymus the author limits his discussion to the primary malignant tumors The most common of these are the lymphosarcomata thymomata and carcinomata Sarcomata arise from the connective tissue elements of the mediastinal lymph glands thymus sternum ribs or spine The carcinomata other than those arising from the reticulum cells of the thymus are the result of extension from a carcinoma primary in the lung trachea bronchi breast œsophagus or elsewhere

In discussing malignant tumors of the pleura the author reviews the difficulty in the differentiation of these neoplasms More than 100 have been reported in the literature They occur in 2 forms the diffuse and the circumscribed The former appear in the form of multiple nodules or flat elevations which fuse The pleura becomes thickened and eventually is converted into a diffuse firm opaque mass covering or compressing the lung The condition is associated with a bloody exudate The circumscribed form gives rise to globular tumor masses of varying size which cast a circumscribed shadow in the roentgen ray film

Tumors of the lung include echinococcus dermoid and other cysts benign tumors such as fibromata, lipomata enchondromata osteomata angiomata lymphomata and adenomata and malignant tumors which include endothelioma carcinoma and sarcoma Seven hundred cases of primary carcinoma have been reported The etiology and treatment of this condition is discussed

Singer states that the diagnosis of thoracic lesions has been greatly advanced by the use of iodized oil pneumothorax and the proper position for roentgen study He reports in detail 8 cases illustrating the value of these procedures He believes that in all cases of lung abscess in persons more than forty years of age malignancy should be suspected if the condition has been present for several months

Lewald has discovered a number of intrathoracic dermoids in the course of routine roentgenological examinations of the chest He states that the differential diagnosis between dermoid cysts and other lesions can often be made successfully by repeated roentgen examinations in various positions especially in the direct lateral position with an interval of several weeks or months between the examinations in doubtful cases Pulsation in this type of tumor may be transmitted and suggest an aneurism An important characteristic of the dermoid is its slow growth Teratoma may be multiple Lewald reports 3 cases of dermoid tumor In 1 the cyst ruptured into a bronchus and spontaneous healing occurred

William J Pickett M D

were carefully closed and at a secondary pericardiotomy the adhesions were cut In one group of animals, section of the adhesions was followed by the introduction into the pericardial cavity of a vegetable digestant and salt solution and in a second group by the introduction of normal salt solution alone In a third group nothing was done besides division of the adhesions The following conclusions are drawn

Intrapericardial and extrapericardial adhesions produce cardiac embarrassment Extrapericardial adhesions are usually associated with intrapericardial adhesions Cardiolysis is only a palliative procedure to be used in late stages The ideal time for surgical intervention in pericarditis is during the acute purulent stage at which time external drainage is indicated Adhesions which invariably result can be treated best after the acute stage has subsided Evidence is submitted that experimentally at least the recurrence of pericardial adhesions following their division can be prevented by the introduction of a vegetable digestant into the pericardial cavity In control animals in which either nothing or only saline solution was introduced the adhesions invariably recurred The use of the vegetable digestant is of value only after the acute infection has subsided During the acute stage adhesions are desirable to limit the infection

Shipley and Horine report experiments with regard to pericarditis which were carried out principally on dogs but also on turtles They devised a very ingenious method by which the heart could be observed through a window consisting of an inverted glass tumbler carefully sutured into the chest wall The opening of the pericardium was made by means of a long knife inserted into another part of the chest By means of these procedures the authors were able to observe the pericardium and avoid the changes which might have been brought about by the establishment of a pneumothorax They noted that the pericardium follows the movements of the heart in each cardiac cycle almost as though it were a fixed part of the heart Small amounts of fluid injected into the pericardium circulated from the apex to the base and from the base to the apex but when air was injected into the pericardium it was apparently forced to the base and remained there even when the animal was placed in different positions

Large effusions in the heart provided their accumulation was slow caused much less disturbance than had been expected The authors therefore conclude that heart tamponage is to be feared only when pericardial effusions are very large or collect rapidly

The authors experience with dogs and their observations on patients makes them doubt the efficiency of drainage as it is usually practiced for the relief of pyopericardium Since there is a tendency for adhesions to form around the ventricles and for fluids in the sac to accumulate around the auricles the drains become sealed off They therefore suggest the possibility of trephining the sternum over both the base and the apex of the heart and making two small openings in the pericardium one at the top and one at the bottom

As regards the position of the heart within a distended pericardium and in purulent pericarditis it was found that the apex was always against the anterior pericardium This was at first a disturbing observation as it caused doubt in several instances as to the presence of fluid within the sac

In conclusion the authors state that as the pressure everywhere within the thorax except in the lung itself is lower than that of the atmosphere and as the function of the wall of the chest is undoubtedly to maintain a negative pressure within the thorax it is not unreasonable to suspect that the heart may be disturbed by exposure to atmospheric pressure and that closed drainage of the pericardium in purulent pericarditis might give better results than open drainage RALPH B BETTMAN M D

ŒSOPHAGUS AND MEDIASTINUM

Stewart M J and Hartfall S J **Chronic Peptic Ulcer of the Œsophagus** *J Path & Bacteriol* 1929 xxxii 9

The authors report a case of chronic ulcer of the œsophagus in which autopsy revealed two large patches of heterotopic gastric mucous membrane of the fundal type at the level of the cricoid cartilage and microscopic examination of these patches showed numerous oxyntic cells capable of secreting acid gastric juice They believe it possible that the presence of such tissue in the œsophagus associated with spasm of the cardia contributed to the chronicity of the ulcer by maintaining active gastric juice in the œsophagus MANUEL E LICHTENSTEIN M D

MISCELLANEOUS

Heuer G J Thoracic Tumors *Arch Surg* 1929 xviii 271

Singer J J Thoracic Tumors A Roentgen Study *Arch Surg* 1929 xviii 283

LeWald L T The Roentgenological Diagnosis of Thoracic Dermoids *Arch Surg* 1929 xviii 300

Heuer states that the total number of tumors of the bony chest wall reported to date is about 240 Nearly 80 per cent were tumors of the ribs and 20 per cent were tumors of the sternum From 60 to 65 per cent were sarcomata 18 per cent were chondromata and 11 per cent were carcinomata The operative mortality has been reduced from 30 to about 15 per cent but the late results have not been satisfactory The results are best in cases of benign tumors

Mediastinal tumors of the benign type include dermoid and other cysts and connective tissue tumors One hundred and thirty five dermoid cysts have been reported Many of these were found at autopsy Total extirpation has the lowest operative mortality and has resulted in a cure in 90 per cent of the cases Other types of cysts of the mediastinum are very

In most of the cases a small pepsin content was associated with a low hydrochloric acid concentration However this relationship between the pepsin and hydrochloric acid concentration was not constant LOUIS EUWELT M D

Konjetzny G E Is There an Indication for the Surgical Treatment of Gastritis? (Gibt es eine Anzeige zur chirurgische Behandlung der Gastritis?) *Arch f klin Chir* 1928 cli 370

The author describes the various forms of gastritis and reviews a number of case histories He reports three cases in which acute gastritis produced the clinical picture of acute peritonitis or acute gastric perforation In two of these cases medical treatment was sufficient whereas in the third surgical treatment was indicated Severe hæmorrhage may constitute an indication for surgery as acute gastritis may cause fatal bleeding The diagnosis of the cause and the localization of the bleedings are difficult In some cases a gastrotomy may be of diagnostic aid Operation is to be considered only under particularly favorable circumstances It may be possible to avoid operation on the stomach itself and restrict surgical intervention to jejunostomy The uncomplicated acute gastritis or simple ulcerous gastritis should be treated surgically only when medical treatment has failed to effect a cure after a sufficiently long trial

Chronic gastritis is also of various types The type which leads to pyloric stenosis (stenosing gastritis) is suitable for surgical treatment Autopsy in cases of this type shows a definite hypertrophy of the musculature of the pylorus and antrum manifested by surprising rigidity In the atrophic hypertrophic form of chronic gastritis resection is indicated if the diagnosis is certain The chief diagnostic aids are roentgen examination and gastroscopy The plaque and polyp types of hyperplasia of the mucosa are of particular importance as they are precancerous conditions In simple atrophic gastritis the decision as to the advisability of surgery is very difficult The author reports a case in which a very small carcinoma was discovered only after the examination of numerous serial sections

The entire gastritis problem and especially the problem of surgery in gastritis is very complex However the indication for surgery in carefully selected cases cannot be doubted and is recognized by internists J FOELIUS (Z)

Bockus H L and Bank J Upper Gastro Intestinal Disease Associated with Syphilis *Am J Syphil* 1929 xiii 30

The authors have studied twenty three cases of disease of the upper gastro intestinal tract in which it was necessary to consider the possibility of syphilis According to the non specific lesion they suggested these cases are divided into the following four groups Group 1 four cases suggesting gastric ulcer Group 2 two cases suggesting gastritis with *achlorhydria* Group three cases suggesting scirrhous carcinoma or diffuse fibrosis Group 4 five cases with gastric retention and Group 5 seven cases with duodenal deformity suggesting ulcer

In Group 1 the observations of particular significance were (1) the failure of ordinary ulcer management (2) symptomatic relief and disappearance of the anatomical defect after anti syphilis treatment (3) a gastric acidity similar to that associated with peptic ulcer (4) symptoms like those of simple peptic ulcer except for a greater loss of weight and (5) a tendency toward multiple deformities demonstrable by the roentgen ray

With regard to the cases in Group 2 the authors state that in their opinion a catarrhal gastritis and achlorhydria associated with evidence of syphilis may represent early gastric changes associated with lues but cannot be classified as gastric syphilis as the gastric condition does not differ in any respect from *the gastritis associated with chronic alcoholism* cirrhosis of the liver etc

In cases of the type of those in Group 3 the history is somewhat longer than that of scirrhous carcinoma of the stomach and the weight loss occurs less rapidly The patient does not appear as ill as would be expected from the extent of the gastric involvement shown by the roentgen ray The fibrosis is not always permanent It is sometimes necessary to continue the therapeutic test for as long as six months before a definite conclusion can be drawn from it but this is not always advisable if the case is operable since there can be no doubt that gastric cancer is more common than gastric syphilis

In the cases in Group 4 the important features in addition to the gastric retention were a history similar to that of duodenal ulcer the presence of hyperacidity and multiplicity of the lesions A tendency to bleed was present in only two instances For such cases the authors advise palliative operation before prolonged anti syphilis treatment is given

In discussing the cases in Group 5 the authors state that in their opinion the majority of syphilitics with duodenal deformity have a simple peptic ulcer Four of their patients in Group 5 reported relief from their symptoms and two who were re examined showed marked improvement in the duodenal defect after specific treatment Two patients received the usual benefit from ordinary ulcer management

Of the total number of twenty three cases reviewed eleven responded to anti syphilis treatment Neoarsphenamine was found preferable to mercury and the iodides Multiple defects were present in fourteen cases Achlorhydria was not found as often as expected and the authors do not consider its presence essential for the diagnosis of gastro intestinal syphilis WILLIAM J PICKETT M D

Brown H P Jr Perforation of Peptic Ulcer *Ann Surg* 1929 lxxxix 209

The author reviews a series of 100 cases of perforated peptic ulcer which were operated upon at the Pennsylvania and *Presbyterian Hospitals* Philadelphia Pa Ninety five of the patients were

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

De Sanctis A G and Nichols R A Jr Primary Peritonitis in Children *Arch Pediat* 1929 xlvi 17

Primary peritonitis is defined by the authors as that form of peritonitis which develops in the absence of intra abdominal disease

Of thirty-eight cases of peritonitis in children excluding localized peritonitis due definitely to ruptured or gangrenous appendicitis which were seen in the babies wards of the New York Post graduate Hospital during a period of ten years twenty one (55 per cent) were of the primary type

The factors predisposing to primary peritonitis are unhygienic surroundings addiction to alcohol hereditary influences attacks of indigestion malnutrition wasting diseases and trauma In various reports it is stated that the condition occurs about three times as frequently in females as in males but in the series of cases reviewed by the authors it occurred about equally often in both sexes The ages of the children whose cases are reviewed ranged from seven weeks to thirteen years Five of the patients were under one year of age eight under two years and fourteen under five years

The bacteria most frequently found are the pneumococcus and streptococcus hæmolyticus In the cases reviewed by the authors the streptococcus hæmolyticus was the most common micro organism The bacteria may attack the peritoneum by way of the blood stream the gastro intestinal tract the external genitalia and fallopian tubes in females or the lymph stream In most of the cases reviewed by the authors the focus of infection was above the diaphragm

The onset of the condition is almost always sudden In fourteen of the cases reviewed vomiting was one of the initial symptoms In fifteen cases pain was apparently present although this is difficult to ascertain in the cases of infants Constipation and diarrhœa were about equal in frequency and seemed to be of no diagnostic significance The most outstanding symptom was the rapid development of an intense toxæmia

One of the most frequent physical signs was tenderness Distention was almost always present The intense and board like rigidity typical of peritonitis was found in very few cases In almost half of the cases rigidity was absent and in the remainder it varied in degree The presence of fluid in the abdomen was demonstrated by shifting dullness in the flanks in fewer than half of the cases

The disease ran a septic course with an unusually high temperature ranging from 102 to 107 degrees F The leucocytosis was usually high the average white cell count being 19 200 and the polymorphonuclear percentage ranging from 80 to 96

In ten of the cases the infection could be attributed indirectly to acute infection of the upper respiratory tract or middle ear disease In four of the cases the peritonitis was a complication of nephritis

The gross mortality was 85 7 per cent In the eight cases which were not operated upon the mortality was 100 per cent and in the thirteen cases treated by laparotomy and drainage 76 9 per cent

The authors conclude that primary peritonitis in children is more common than is generally believed and that laparotomy and drainage are undoubtedly indicated in this condition

J Edwin Kirkpatrick M D

GASTRO INTESTINAL TRACT

Faber K and Holst J E Gastric Secretion in Gastric Achylia and Hypochylia (Ventrikel sekretion bei Achylia und Hypochylia gastrica) *Acta med Scand* 1928 lxx 40

A study of the gastric secretion after various test meals and after the injection of histamin was undertaken in the cases of twenty six patients In twenty two the Congo red reaction was negative following Ewald's test breakfast and in four both negative and positive reactions were obtained after repeated test meals

A comparative study with fractional removal showed that the Ehrmann alcohol test meal is a very weak stimulant for gastric secretion Ryle's oatmeal broth test breakfast had a somewhat stronger effect The most marked effect was exerted by histamin and a zwieback test meal

After the injection of histamin the Congo red reaction was positive in the cases of all of the four patients who showed varying results after the Ewald test breakfast whereas a positive result was obtained in only eight of the twenty two patients who showed a negative Congo red reaction with the Ewald test breakfast

After the injection of histamin in the cases of patients with achylia no distinct effect was observed upon the amount of the secretion

In almost all of the cases there was an increase in the pepsin content of the secretion after the injection of histamin This effect begins earlier and is stronger and more persistent than the effect upon the production of acid Similarly the effect upon the pepsin content may be very pronounced in cases in which no production of acid is demonstrable

When no effect upon the production of acid was demonstrable after the injection of histamin there was usually no effect upon the hydrochloric acid concentration

Schwartz Cancer of the Stomach Gastropylorectomy and Re Establishment of Continuity by the Péan Procedure Excellent Clinical and Roentgenological Result (Cancer de l estomac gastropylorectomie et rétablissement de la continuité par un Péan résultat excellent clinique et radiologique) *Bull et mém Soc nat de chir* 1928 liv 1162

The case reported was that of a woman sixty six years of age who had suffered from gastric pain and vomiting for one year and had lost weight For a month the pain had recurred after every meal There was no history of hæmatemesis or melæna

Physical examination revealed a painful zone in the epigastrium and roentgen examination showed a lacuna on the lesser curvature toward the median portion of the stomach

At operation a mobile tumor the size of an orange was removed from the median portion of the stomach Gastropylorectomy according to the classical technique was performed with anastomosis according to the Péan technique The tumor was vegetative It was attached to the anterior wall and lesser curvature of the stomach Recovery was uncomplicated

Recent re examination with the X ray showed that the test fluid filled the stomach normally to the pyloric region At the arrival of the barium the pyloric opening allowed the evacuation of about a mouthful but then became continent and evacuation became normal Bolus succeeded bolus slowly and with a regular rhythm There was no painful point in the stomach PACE

Udaondo C B and Novas M Fatal Gastric Tetany from a Cancerous Ulcer of the Pylorus (Tetania gástrica mortal por úlcero cáncer pilórico) *Arch argent de enferm d apar digest* 1928 iv 203

The patient whose case is reported was a man forty one years of age who gave a vague history of dyspepsia terminating in a pyloric syndrome with repeated vomiting and pronounced gastric distention He entered the hospital in poor condition and after two days began to have generalized tetany recurring at short intervals He died in coma

This case presented the two most constant factors responsible for gastric tetany—stenosis of the pylorus and repeated vomiting There was also considerable dilatation which is believed by many although not by the authors to be necessary for the development of tetany The stenosis was caused by a cancer secondary to an ulcer

In the authors opinion a change in the chemical composition of the blood is of considerable importance in the causation of tetany Alkalosis is shown by an increased bicarbonate content and a decreased hydrogen ion concentration The alkali reserve may be extreme causing increased nervous excitability This change is due to the loss of acid in the vomitus causing secondary hypochloræmia Although in the case reported it was impossible to make all of the tests because of the rapid course of the condition an appreciable increase in the alkali reserve with a distinct hypocalcæmia was demonstrated The theory has been advanced that the decrease in ionized calcium is the cause of the contractures but this requires further proof

Generalized gastric tetany is always very serious Its mortality varies from 70 to 90 per cent but by operative treatment has been decreased to from 27 to 30 per cent Operation to re establish the motor function of the stomach should be performed at once In the authors case this was impossible because of the patient s poor general condition

AUDREY G MORGAN M D

Chamberlain D A New Method of Approach in Gastric Surgery *Brit M J* 1929 i 343

From the point of view of radical excision cases of carcinoma of the stomach fall into three groups

1 Cases in which the growth is confined to the stomach the stomach is not fixed and an immediate partial gastrectomy may be done

2 Cases with secondary deposits in the liver or elsewhere which are obviously inoperable

3 Cases in which there are no secondary deposits but on account of the size and fixation of the growth it is doubtful whether an excision can be done

The author reports two cases belonging to the last group in which the abdomen was opened and a large dose of deep X ray irradiation was given directly to the tumor Six weeks after this treatment the growth was considerably shrunken and much more freely movable and a partial gastrectomy was done without difficulty

If a dose of the strength which can be applied directly to the exposed growth were given as a pre operative measure there would be danger of causing an X ray burn Moreover experience shows that one large dose is considerable more efficacious than a number of small doses given at intervals by the crossfire method SAMUEL KAHN M D

Finney J M T and Rienhoff W F Jr Gastrectomy *Arch Surg* 1928 xvii 140

From a review of the literature on the function of digestion in gastrectomized animals and patients the authors conclude that patients as well as animals when properly fed as regards the consistency and amount of food and periods of feeding can get along without a stomach The physiological digestion of protein fats and carbohydrates is not seriously affected by exclusion of the pepsin and hydrochloric acid of the gastric juice It is extremely difficult however to be absolutely certain at the operating table that all trace of the gastric mucosa has been removed Microscopic study is necessary to determine just where the gastric mucosa ends and the œsophageal mucosa begins If the slightest trace of gastric mucosa remains following the operation or if gastric mucosa is present in the lower end of the œsophagus the function of the gastric mucosa will probably be re-established

males Two were under twenty years of age 26 between twenty and twenty nine years 27 between thirty and thirty nine years 17 between forty and forty nine years 17 between fifty and fifty nine years and 7 over sixty years of age The ages of 4 are not stated At the time of their admission to the hospital 64 of the patients showed shock and rigidity 22 rigidity but not shock 2 shock but not rigidity and 5 neither shock nor rigidity In the case reports regarding 7 there is no mention of shock or rigidity In 95 cases the chief complaint was high or generalized abdominal pain with or without vomiting Six patients gave a history of hæmatemesis 2 had melæna and 2 had both hæmatemesis and melæna

In the differential diagnosis of perforated peptic ulcer it is necessary to rule out acute appendicitis acute cholecystitis acute pancreatitis thoracic infection mesenteric embolus tabetic crises volvulus and intestinal obstruction

Of 54 patients who were operated upon within twelve hours 14 died a mortality of 28 per cent whereas of 14 who were operated upon within from twelve to twenty four hours 8 died a mortality of 57 per cent

As patients with perforation of a peptic ulcer are frequently poor surgical risks the anæsthetic preferred for operation was nitrous oxide oxygen with sufficient ether to obtain relaxation

The diagnosis of perforation is an indication for immediate operation regardless of the general condition unless of course the patient is moribund If the case is seen early the author favors gastroenterostomy or pyloroplasty in addition to local treatment of the ulcer Drainage is advisable whether the peritonitis is local or general The author introduces a cigarette drain into the pelvis through a separate stab wound made in the lower part of the abdomen

Twenty four of the patients whose cases are reviewed developed peritonitis either local or general with symptoms persisting beyond the second postoperative day Six in this group died Six patients died from pneumonia The total mortality was therefore 33 per cent CHARLES F DUBOIS M D

Goullioud The Treatment of Ulcers of the Stomach by Pylorectomy and Pyloric Hemigastrectomy (Du traitement des ulcères d estomac par pylorectomie et l hémigastrectomie pylorique) *Lyon chir* 1928 xxv 526

The author presents twelve drawings of pylorectomies for ulcers of the pylorus or the lesser curvature of the stomach He has operated for every suspicious induration In the cases of patients who had lost too much weight or were too weak and in cases in which the lesion appeared to be simply cicatricial he has performed a gastro-enterostomy whereas in the cases of patients with more resistance he has performed a pylorectomy if the lesion was sufficiently limited and mobile even if a presumptive or definite diagnosis of ulcer had been made

The drawings show the extent of the exeresis. Preliminary re-establishment of gastro intestinal continuity assures the immediate emptying of liquids so that free exeresis does not increase the severity of the operation When there is doubt as to the nature of the lesion it is of great advantage It is doubtless of value also in ulcerous gastritis

Local anæsthesia induced with Billroth s mixture greatly diminishes the risk of pulmonary complications The first step in the operation is the establishment of the posterior transmesocolic gastroenterostomy Goullioud makes a three layer suture with linen thread The anastomosis is done far enough to the left so that it will not cause any inconvenience in the exeresis Goullioud generally makes a direct non isoperistaltic anastomosis parallel with the greater curvature and not far from it on the posterior surface of the stomach However if the efferent loop is discovered to tend from the ligament of Treitz toward the right he makes an isoperistaltic anastomosis At first he performed the gastrojejunal implantation of Kocher but later adopted the Billroth II procedure

The extensive exeresis lessens the risk of perforation hæmorrhage and recurrence and is especially valuable in cases of ulcerocancer In Goullioud s opinion ulcers do not undergo cancerous degeneration In none of his cases has a peptic ulcer developed

In 1907 Goullioud performed his first complete resection of a prepyloric pocket The patient was a woman twenty years of age whose stomach had become bilocular as the result of an old ulcer of the lesser curvature The pyloric pocket was small Hemigastrectomy was performed successfully and fifteen years later the result still remained excellent

In three other cases good results lasting for six fourteen and five years respectively were obtained without restriction of the patients to any special diet

The author has performed very few mediogastric operations but in at least one case the result of such a procedure was less satisfactory than that of hemigastrectomy However he performs a mediogastric operation when large size of the pyloric pocket and small size of the cardiac pocket would render hemigastrectomy too difficult and dangerous In two cases of bilocular stomach a two stage operation was decided upon and the first stage gastroenterostomy on the cardiac pocket was done The results after three and two years respectively were so satisfactory that the patients declined further treatment In one case a gastrogastrostomy was necessary because of the peculiar deformity of the stomach

In another case a gastric ulcer opened into the posterior omental cavity a fact discovered after operation had been begun The tumor was resected *en bloc* with gastric resection and resection of 25 cm of the transverse colon The cure has lasted for fourteen years PACE

attack of pain in the abdomen and vomit once or twice and during the following few days may vomit occasionally and experience colicky pains The bowel movements become less regular and aperients become necessary There is no blood in the stool Signs of wasting are noted

The author reports two cases of chronic intussusception which were treated surgically The first was that of a girl three years of age who had attacks of severe abdominal pain becoming localized at the umbilicus Operation revealed an easily reducible intussusception which involved Meckel's diverticulum At the end of the diverticulum there was a small tumor which proved to be an accessory pancreas

The second case was that of a boy five years of age who developed a severe pain in the abdomen while at play The pain soon subsided but recurred on the following two days It centered at the umbilicus There was no vomiting or fever but constipation was present At laparotomy thirteen days later an easily reduced intussusception of the ascending colon was found Six months after the operation the patient had completely recovered

JOHN W NUZUM M D

Michel A. Acute Intestinal Invagination in an Infant Operation Serious Intoxication Cured by the Administration of Salt Solution (Invagination intestinale aigue chez un nourrisson opération accidents très graves d intoxication guéris par absorption de chlorure de sodium en solution hypertonique) *Bull et mém Soc nat de chr* 1928 liv 1415

A male infant four months of age was first seen by the author twenty four hours after the beginning of signs of intestinal obstruction He had vomited several times and had passed two bloody stools his face was rather pinched and his pulse was 120 His general condition however was still quite good

Operation revealed in the upper part of the abdomen an invagination 20 cm long which involved all of the transverse colon Disinvagination was easy except when the cæcum was passed through the ring The operation was completed in twenty minutes The end of the small intestine and all of the ascending colon were œdematous and brownish but their vitality did not seem to be affected

The next day the child was in fairly good condition but on the second day he showed signs of very severe intoxication At 8 a m at noon and in the afternoon 50 c cm of a 20 per cent salt solution were given by rectum At 8 p m the child's condition showed marked improvement but the next morning at 8 o clock it was extremely poor The pulse was then 160 and of poor quality the respiration rapid and the patient pale and almost in coma An injection of camphorated oil was given and the administration of salt solution by rectum was renewed That evening the patient was again in good condition and thereafter showed continued improvement

GOSSET who reported Michel's case to the Society stated that in his opinion the child's life was saved by the salt solution The solution was given by rectum because the patient was too young for its intravenous or subcutaneous administration In three days nine injections of 50 c cm each of the 20 per cent salt solution were given but it is impossible to say how much of the solution was absorbed as part of it was expelled with the stools A considerable amount must have been retained but there was no trace of œdema from the salt retention

In a similar case that of a man fifty four years of age Gosset was able to save the patient's life by the intravenous injection of 10 per cent salt solution

Gosset cited Coleman's report in 1927 of the results of his operations for intestinal occlusion over a period of six years In a first series of twenty cases treated by the old methods the mortality was 50 per cent whereas in a second series of eighteen cases in which intravenous injections of salt solution were given the mortality was only 11 1 per cent

AUDREY G MORGAN M D

Davis L. Reflux of the Duodenal Contents Through the Common Bile Duct *New England J Med* 199 cc 313

An unusual and serious complication of surgery of the common bile duct is the regurgitation of large quantities of duodenal fluid with digestive ferments through the choledochotomy wound Davis reports two cases

The first case was that of a woman thirty nine years of age who gave a history of attacks of gall stone colic over a period of a year At operation, the gall bladder was found thickened and filled with stones and was removed The common duct was dilated and the pancreas showed a nodular swelling Choledochotomy was performed but no stone was found The common duct was drained with a catheter

The operation was followed by mild bronchopneumonia which cleared up in a few days and by the discharge of large quantities of thick flocculent bile which caused digestion of the skin and breaking down of the wound A water suction pump connected to a drain in the wound aspirated large amounts of bile stained fluid Death occurred on the seventeenth day Autopsy was not permitted Chemical examination of the wound contents failed to show pancreatic ferments

The second case was that of a man forty years of age who had suffered from epigastric pain for a month and had had jaundice during the past few days Physical examination revealed acute tenderness in the region of the gall bladder

At operation the gall bladder was found thickened but not distended It contained two stones Cholecystectomy was performed The common duct was dilated and thickened and contained a large soft stone The stone was removed in fragments a probe passed through the ampulla of Vater

It must be conceded that a better clinical physiological and mechanical result is to be expected if the surgeon leaves a portion of the gastric mucosa however small but from present indications this does not appear to be absolutely necessary for the patient's life or well being SAMUEL KAHN M D

Rowlands R P Volvulus of the Intestine *Brit M J* 1929 i 287

Volvulus may occur in any of the movable viscera but is most common in the sigmoid colon cæcum and spleen and in ovarian cysts and subperitoneal fibroids Occasionally a lax liver or stomach may become rotated

The signs and symptoms of acute volvulus are those of acute intestinal obstruction Severe spasmodic pain in the abdomen occurs with characteristic vomiting constipation and collapse associated with a slow weak pulse and a subnormal temperature A history of previous similar attacks with rapid distention of the abdomen is very suggestive Volvulus is differentiated from other types of intestinal obstruction chiefly by its very sudden onset the rapid progress of its symptoms and the marked tympanites it causes

As a rule radical operation should be deferred until the acute crisis is past

Rowlands reports four cases

The first case was that of a woman forty five years of age who gave a history of chronic indigestion and visceroptosis with hydronephrosis In 1922 she had had a gastro-enterostomy for duodenal ulcer and an appendectomy Five years later she experienced a sudden attack of severe abdominal pain Enemata failed to cause the evacuation of either fæces or flatus Operation was performed the following day through a low paramedian incision The cæcum was found to be greatly distended and to have made two complete clockwise rotations toward the left thereby completely obstructing the ascending colon The volvulus was untwisted, the cæcal contents were expressed into the transverse colon a valvular cæcostomy was performed and a long rubber tube 1/3 in in diameter was passed through a stab wound at the iliac crest into the lumen of the cæcum The cæcum was then sutured in contact with the parietal peritoneum Recovery resulted The patient was in perfect health three years later

The second case was that of a woman who had suffered since childhood from very severe constipation with attacks of abdominal pain without fever She was believed to have chronic appendicitis At operation the appendix was found to be œdematous and white and the cæcum greatly dilated and in a low position There was a white mark on the ascending colon indicating the site of former twistings of the ileum on the colon An anastomosis was made between the anterior side of the cæcum and the descending part of the transverse colon The constipation and pains have been apparently cured

The third case was that of a woman sixty one years of age who was operated upon for acute intestinal obstruction When the greatly distended colon was accidentally opened by the surgeon gas and fæces escaped with a loud report Malignant stricture of the sigmoid was diagnosed a Paul tube inserted and the abdomen closed After the operation the patient gradually recovered and the bowels moved naturally Six years later she suddenly developed intestinal distention and severe pain in the lower abdomen A diagnosis of volvulus of the sigmoid was made and the abdomen re-opened A coil of sigmoid which was longer and larger than a coat sleeve and was rotated upon itself was found occupying the pelvis The loop of distended gut was emptied by means of a trocar and later closed with a purse-string suture The bowel was attached to the line of incision in the abdominal parietes and the abdomen closed The patient made a good recovery When she was seen again three years later she was in good health

The fourth case was that of a boy fourteen years of age who was admitted to the hospital for repeated attacks of pain in the left groin He gave a history of acute appendicitis five years previously which was treated medically At operation the cæcum pelvic colon and transverse colon were found greatly dilated The appendix was removed Two months later a second operation was done for the resection of a pendulous twisted loop of pelvic colon The resection was followed by end to-end anastomosis The patient made a good recovery

The mortality of volvulus approximates 50 per cent because operation is often delayed In the acute crisis the therapeutic indication is quick and efficient drainage of the distended loop above the obstruction

JOHN W NUZUM M D

Stabins S J and Kennedy J A The Occurrence of Bacillus Welchii in Experimental High Intestinal Obstruction *Arch Surg* 1929 xvii 753

Stabins and Kennedy state that the bacillus welchii is a normal inhabitant of the intestinal tract In experiments on dogs it was found in the normal jejunum 10 in distal to the ligament of Treitz in only 17 per cent of the animals whereas under abnormal conditions produced by obstruction of the bowel at this level it was found in 94 per cent It therefore multiplies rapidly in experimental high intestinal obstruction HARRY W FINK, M D

Beaven P W The Occurrence of Chronic Intussusception in Young Children *Am J Dis Child* 1929 xxxvii 373

Intussusception is primarily a condition of childhood In 75 per cent of the cases it occurs during the first year of life In the majority it is acute but in some cases it may be subacute or chronic If the blood supply of the bowel is not obliterated the intussusception may continue without obstruction and the condition becomes chronic

The symptoms of chronic intussusception are seldom typical and clear cut The child may have an

attack of pain in the abdomen and vomit once or twice and during the following few days may vomit occasionally and experience colicky pains The bowel movements become less regular and aperients become necessary There is no blood in the stool Signs of wasting are noted

The author reports two cases of chronic intussusception which were treated surgically The first was that of a girl three years of age who had attacks of severe abdominal pain becoming localized at the umbilicus Operation revealed an easily reducible intussusception which involved Meckel's diverticulum At the end of the diverticulum there was a small tumor which proved to be an accessory pancreas

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A male infant four months of age was first seen by the author twenty four hours after the beginning of signs of intestinal obstruction He had vomited several times and had passed two bloody stools his face was rather pinched and his pulse was 160 His general condition however was still quite good

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The operation was followed by mild broncho *pneumonia* which cleared up in a few days and by the discharge of large quantities of thick flocculent bile which caused digestion of the skin and breaking *down of the* wound A water suction pump connected to a drain in the wound aspirated large amounts of bile stained fluid Death occurred on the seventeenth day Autopsy was not permitted *Chemical* examination of the wound contents failed to show pancreatic ferments

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At operation the gall bladder was found thick *ened* but not distended It contained two stones Cholecystectomy was performed *The* common duct was dilated and thickened and contained a large soft stone The stone was removed in fragments a probe passed through *the ampulla of Vater*

into the duodenum and a rubber tube sutured into the common duct

The operation was followed by very profuse drainage of bile After ten days the drained material resembled duodenal contents and the skin edges showed digestion Suction was applied to the wound Methylene blue given by mouth did not *appear in the discharge The patient s condition* was precarious Salt solution and glucose were given freely Gradually the drainage ceased and recovery resulted The patient was discharged from the hospital one month after the operation

Five months later he returned with jaundice The stools were found to be clay colored At a second operation the common duct was found buried in adhesions It was liberated and opened and a soft stone the size of an almond was removed The pancreas was found thickened The opening in the common duct was sutured about a No 14 catheter Convalescence was uneventful

At a third operation performed one month later the common duct was found enormously dilated and a large soft stone was discovered in the saccu lated portion Following removal of the stone in fragments a No 14 catheter was passed through the ampulla into the duodenum for a distance of about 8 in and the upper end was cut off and anchored to the wall of the common duct with cat gut sutures *A second catheter was passed into the* hepatic duct and brought out into the wound and the common duct sutured somewhat loosely about it

After forty eight hours there was profuse drainage from the wound and very little drainage from the *catheter in the common duct With suction the* amount of discharge reached 108 oz in twenty four hours The discharge had a distinct bile color The wound edges broke down completely and the patient exhibited alarming prostration and emaciation

On the fourth day a jejunostomy was done under local anæsthesia and a catheter was inserted into the jejunum by the Witzel method A transfusion of 600 c cm of blood was then given and the duodenal contents aspirated from the wound were re introduced through the tube Egg albumin saline solution and milk were given in the same manner

Immediate and remarkable improvement resulted After ten days the patient was able to take nourish ment by mouth the duodenal drainage slowly ceased and the wound granulated After six weeks the *duodenal catheter was passed by rectum When the* patient was re-examined about a year later he was found to be in excellent health and was working as an iron worker JOHN W NUZUM M D

Nora *Acute Postoperative* Occlusion of the Duodenum Cured by the Intravenous Injection of Hypertonic Salt Solution (Occlusion aiguë duodénale postopératoire guérie par injection intraveineuse de sérum salé hypertonique) *B ll et mém Soc nat de chir* 1928 liv 1420

In the case reported a supravaginal hysterectomy was performed on February 8 1928 and many adhesions were found At about 2 o clock on the morning of February 9 the patient was seized with violent subcostal pain on the right side associated with syncope and vomiting On February 10 vomiting occurred almost hourly The vomitus became greenish and then almost black Six hundred cubic centimeters of highly colored urine were *passed in twenty four hours The* patient showed marked agitation and abdominal facies Lavage of the stomach resulted in improvement during the day but at night the hourly vomiting recurred

On February 11 the vomiting stopped for only two hours following *gastric lavage at 8 a m noon* and 7 p m Two hundred cubic centimeters of urine were passed in twenty four hours By this time the agitation had given place to profound depression The patient looked emaciated her eyes were sunken and her abdomen was greatly distended

The next day a subcutaneous injection of isotonic salt solution stopped the vomiting from 10 a m until 5 p m Another injection given at 7 p m stopped the vomiting until 11 p m but during the night the patient s condition was very poor The next morning an injection of 20 per cent salt solution was given intravenously and 500 c cm of an isotonic salt solution were given subcutaneously At noon the patient s condition was much better and after an other intravenous and subcutaneous injection of the *salt solution in the afternoon it continued to improve*

In all the patient was given in twenty four hours 50 c cm of 20 per cent salt solution intravenously (equal to 10 gm of salt) and 1 liter of isotonic salt solution subcutaneously Recovery resulted

The author states that there is nothing illogical in the application of this treatment to acute post operative dilatation of the stomach since death in such cases is due to general intoxication or dehy dration both of which are alleviated by salt solution

AUDREY G MORGAN M D

Kaldor J Atresia of the Duodenum and Duodenal Diverticula *Ann Surg* 1929 lxxxix 6

Bird C E Tumors Which May Expand the Curvature of the Duodenum Particularly Tumors and Infections of the Retroperitoneal Lymph Nodes *Ann Surg* 1929 lxxxix 12

McQuay R W Duodenal Diverticula and Their Surgical Treatment *Ann Surg* 1929 lxxxix 36

KALDOR reports two cases of duodenal anomaly *The first was a case of duodenal atresia* in a male child which seemed normal at birth The child lived only five days and during this time vomited continuously had no bowel movement and became jaundiced and emaciated A diagnosis of intestinal obstruction was made At operation the stomach and duodenum were found to be enormously dis tended and the duodenum was discovered to end in a blind pouch Nothing was done at the oper ation At autopsy the volume of the duodenum was found to be several times that of the stomach *The duodenum ended abruptly at the point where* it should have continued into the jejunum The

entire small bowel and the colon were completely collapsed The pathological diagnosis was congenital atresia of the duodenum

In the second case the anomaly was a diverticulum of the duodenum The patient was a man fifty seven years of age who had suffered for eight years from weakness dizziness and epigastric pain associated with progressive loss of weight and vomiting and during the last year had had intermittent hæmaturia Operation was performed for the removal of a kidney which was the site of a large carcinoma Autopsy revealed acute purulent peritonitis and two diverticula in the duodenum located to the right and left side of the ampulla of Vater and separated by a thin connective tissue wall containing the opening of the common duct The diverticula were adherent to the head of the pancreas

Bird reports six cases of tumor of the upper abdomen which expanded the normal duodenal curvature He states that expansion of the duodenal arc should be regarded as an important sign in cases of immovable tumor in the region of the pancreas Pancreatic cysts and pancreatitis may produce the deformity but cancer of the head of the pancreas rarely reaches a sufficient size to cause more than an irregularity in the outline of the duodenal loop The expansion is due most frequently to conditions involving the retroperitoneal lymph nodes such as lymphosarcoma Hodgkin's disease metastatic carcinoma and tuberculosis In many cases the lesion responds so well to X ray therapy that operation is rendered unnecessary

McQuay states that in a review of the literature prior to 1912 he found the number of cases of duodenal diverticula reported to be less than 100 Case was among the first to diagnose the condition by X ray examination He discovered it in 1 2 per cent of all complete gastro intestinal examinations made with barium Spriggs and Marxer have seen diverticula grow from the size of a pea to that of a walnut and have described a prediverticular stage in the colon consisting of local inflammatory areas which give rise to diverticulitis if untreated

In the diagnosis of duodenal diverticulum the X ray is of the greatest importance The condition must be borne in mind in the examination of all patients complaining of obscure symptoms in the upper part of the abdomen In many instances the diverticulum is first recognized when the abdomen is opened for an operation on the gall bladder or for duodenal ulcer Perforation and hæmorrhage due to diverticula have been reported Smithies states that he has never seen a case of duodenal diverticulum with a history typical of duodenal ulcer

McQuay reports 10 cases of diverticulum of the duodenum JOHN W VAUGHAN M D

Balfour D C and Henderson E F Benign Tumors of the Duodenum *Ann Surg* 1929 lxxxix 30

The rarity of benign tumors in the duodenum as compared with benign tumors of other portions of the gastro intestinal tract and the fact that they do not necessarily produce symptoms are the chief reasons why they are so seldom encountered in surgical practice In some cases however they may be responsible for serious symptoms, particularly hæmorrhage

In 1899 Heurtaux reviewed 50 cases and in 1917 King added 69 cases bringing the total number to 119 The authors cite 8 additional cases from the literature and report 4 cases of their own 1 case previously reported by Camp and 1 case previously reported by Carman

Three of the 6 patients observed at the Mayo Clinic were men and 3 were women The ages ranged from twenty two to fifty years Two of the tumors were myomata 2 were adenomata 1 was an adenomatous polyp and 1 was a hæmangioma

In all but 1 of the 6 cases the symptoms seemed to be accounted for by the presence of the tumor The most significant sign was hæmorrhage which was severe in 4 cases In 1 case however it was found later that the hæmorrhage was due to another cause

In 5 of the 6 cases some form of indigestion was present In 3 of these it simulated somewhat the ulcer type In 1 case a small duodenal ulcer may have produced the symptoms In 1 case not associated with ulcer the time that has elapsed since the operation has not been sufficient to demonstrate the importance of the tumor in the production of the symptoms A tumor was not noted on examination in any case In only 1 case was definite obstruction present With respect to obstruction these tumors were in sharp contrast to benign tumors elsewhere in the small bowel which usually first attract attention by producing intussusception The tumor was ulcerated in 3 of the 6 cases in 2 of these the hæmorrhage was severe

A diagnosis of benign tumor of the duodenum can be made only with the roentgen ray However unless the tumor is large it is difficult to visualize it on account of the rapid passage of the medium through the small bowel Two of the tumors in the cases reviewed were diagnosed as such by roentgen examination

In cases of gross gastric hæmorrhage or melæna the possibility of benign duodenal tumor should be considered although other lesions causing such hæmorrhage are much more common

So far as the authors have been able to determine no case in which a benign tumor of the duodenum has undergone malignant degeneration has been reported

MacKinlay R Hypertrophy of the Distal Portion of the Ileum *Lancet* 1929 ccxvi 282

Lane is quoted as follows 'This ileal kink is caused by an evolutionary band produced by abnormal loading of the bowel which is aggravated by the first and last kink

MacKinlay believes that the ileal kink is caused by cicatrization of the lower leaf of the mesentery of the ileum resulting directly from recurrent

attacks of appendicitis He classifies cases of hyper trophy of the distal portion of the ileum into the following three groups

Group 1 Cases in which the cicatrization of the mesentery has just begun and has not yet interfered with the circulation of the me entery or the ileum In this group there are no symptoms other than those of appendicitis

Group 2 Cases in which the formation of scar tissue in the mesentery has caused mechanical inter ference with the circulation of mesentery and the distal portion of the ileum but does not obstruct the passage of the fæces

Group 3 Cases in which the signs and symptoms of intestinal obstruction are superimposed on the signs and symptoms present in Groups 1 and 2

In the treatment the appendix should be re moved through a right rectus incision The ileum should then be carefully examined for some dis tance back from the cæcum Bands of cicatricial tissue present in the lower leaf of the mesentery should be cut In this way the interference with the circulation of the ileum is removed as well as the ileal kink Failure of the surgeon to separate the mesenteric band is undoubtedly the reason why many patients are not relieved after undergoing an operation for disease of the appendix

JOHN W NUZUM M D

***Hartglass* Perforation of a Peptic Ulcer at Meckel s Diverticulum Operation Recovery** (Perfora tion d un ulcère peptique siégeant sur un diverticule de Meckel opération guérison) *B ull et mém Soc nat de chir* 1928 liv 1091

The author reports the case of a girl who was sud denly seized with violent abdominal pain followed rapidly by the symptoms of diffuse peritonitis On palpation the pain was slightly more marked to the right of the umbilicus Operation performed about eight hours after the development of the symptoms revealed a perforation in the terminal ileum from 40 to 50 cm from the ileocæcal valve at the base of a very much thickened and very va cular Meckel s diverticulum The diverticulum and the intestinal segment upon which it was inserted were resected and intestinal continuity was re-established by cir cular enterorrhaphy

The mucosa of the diverticulum at the point of ulceration had all of the characteristics of the mu cosa of the normal small intestine but very close to the perforation the wall of the diverticulum showed the typ cal structure of gastric mucosa

The literature reports at least nine cases in which ulcers occurred at a point in the wall of Meckel s diverticulum where the mucosa of the small intestine changed suddenly to mucosa of the gastric type Most of the subjects were between the age of one and fifteen years The author suggests that the peptic activity of this island of gastric mucosa pro vokes autodigestion and ulceration of the intestinal mucosa If this hypothesis is correct the mucosa of the gastric type should be removed PACE

Erdmann J F and Clark H Malignancies of the Colon *Am Surg* 1929 lxxxix 54

This article is based on 315 cases of malignancy of the colon which were seen by Erdmann in a period of thirteen years

The authors call attention to the fact that malig nancy of the large intestine is much more common than malignancy of the stomach Malignancy of the small intestine was seen by Erdmann only once in five years

Of the cases reviewed the malignancy was found in the rectum and rectosigmoid in 103 in the sigmoid proper in 105 in the cæcum and ascending colon in 51 in the terminal transverse splenic and descending colon in 35 and in the terminal as cending hepatic and proximal transverse colon in 21 The recto anal segment is involved more frequently in females than in males The rapidity of the growth of the le sion is influenced by the patient s age and the type of the cell

The symptoms vary only slightly with the site of the lesion In none of the cases observed did an acute ileus develop but in several cases with cramp colics in the right lower quadrant of the abdomen operation revealed narrowing of the ileocæcal valve opening due to invasion by the growth Anæmia is a constant finding and is more severe the higher in the colon the growth occurs

In cases of malignancy of the cæcum and ascending colon palpatory and X ray evidence is late Malig nancy in the sigmoid zone is shown earlier by the X ray

In obstruction partial or complete a metallic tinkle heard with the ear over the cæcal region when the opposite side is sharply pushed toward the me dian line is considered an infallible sign and calls for immediate surgery Proctoscopic and X ray exami nations are of inestimable value in the diagnosis

In the treatment the authors consider radium and the X ray only when the growth is positively inop erable

For the site of the artificial anus Erdmann prefers the cæcum In rectosigmoid operations he performs a sigmoidostomy and either resects the lower gut or turns in the lower stump as in the Coffey method In cases of growths between the cæcum and the lower sigmoid the operation of Mikulicz is applicable End to end anastomosis with a plastic on the smaller end is a safe procedure between the cæcum and the mid transverse colon but near and in the portion of gut with a wide mesenteric attachment either the side to-side or the Mikulicz operation should be done

Operation on the lower segment is readily per formed through the perineum with or without re moval of the coccyx NATHAN W CROHN M D

MacAuley C J The Diagnosis of Cancer of the Colon *Brit M J* 1929 i 187

MacAuley states that cancer occurs more com monly in the colon than in any other part of the ali mentary tract with the exception of the stomach Cancer of the colon is distinctly less virulent than

other cancers and metastasizes later Its development may be divided into the following three stages

Stage 1 The precancerous stage inherent in the simple intestinal adenoma Most cancers of the colon are adenocarcinomata Multiple adenomata show a marked tendency toward malignant degeneration Multiple polypi especially in the sigmoid are prone to become malignant The use of the sigmoidoscope will often differentiate adenomata from ulcerative colitis

Stage 2 The latent stage in which cancer is definitely present but betrays no signs of its existence to the patient Frequently it is a cauliflower growth which as yet is not bleeding or ulcerating or a simple constricting growth which as yet has not caused obstruction A very important and common sign of both colonic and gastric cancer is secondary anæmia

Stage 3 The stage of observable clinical manifestations Cases of cancer of the colon are of two main types In one the effects are due to the presence of an ulcerating mass in the bowel In the other there is a progressive narrowing of the bowel lumen by a constricting process The condition causes diarrhœa alternating with obstinate constipation The most important sign is severe secondary anæmia This may be present even without the appearance of gross blood in the stools Sooner or later acute intestinal obstruction occurs

The diagnosis of colonic cancer must be based on the history and the presence of anæmia visible peristalsis local distention of the cæcum and in some cases a palpable tumor Rectal examination may reveal a rectosigmoid growth The stools should be examined for visible or occult blood The sigmoidoscope and barium enema are important diagnostic aids Fully 50 per cent of colonic cancers occur in the sigmoid JOHN W NUZUM M D

Rankin F W and Chumley C L Colloid Carcinoma of the Colon and Rectum *Arch Surg* 1929 xviii 129

In the period from January 1 1907 to January 1 1927 operation was performed at the Mayo Clinic in 3 202 cases of carcinoma of the colon and rectum One hundred and fifty eight (4 9 per cent) of the carcinomata were of the colloid variety The distribution of the latter was as follows cæcum and ascending colon 42 (26 5 per cent) transverse colon 26 (16 4 per cent) descending colon 3 (1 8 per cent) sigmoid 14 (8 8 per cent) and rectosigmoid and rectum 73 (46 2 per cent) Resection was performed in only 122 (70 8 per cent) of the cases of colloid carcinoma palliative operations were performed in 12 (6 8 per cent) and exploration only was done in 24 All of the patients whose condition was inoperable are dead The average duration of life was seven and a half months and the longest period of life was twenty four months

The origin and significance of the gelatinous material found in the tumor designated colloid carcinoma has long been a subject of interest A distinction between mucus and colloid is no longer maintained There seems to be little doubt that in tumors of the gastro intestinal tract colloid is a product of secretion of the epithelial cells of the tumors The manner in which mucus is formed in these tumors especially those of the signet ring type has been described by McFarland

In 1925 Broders published a revised method of grading the malignancy of carcinomata In 1928 Ochsenhirt in studying the significance of mucus forming cells in carcinoma of the colon and rectum devised a method of grading the number of mucus forming cells present He concluded that the presence of mucus in carcinoma of the colon and rectum is the result of partial differentiation of the carcinoma cells The more malignant the carcinoma or the less the extent of differentiation the less numerous the mucus secreting cells and vice versa

The cases reviewed in this article demonstrate that in colloid carcinoma of the lower grades of malignancy (1 2 and 3) there is a tendency for the grading of the amount of mucus present to be inversely proportional to the grade of malignancy as was shown by Ochsenhirt in adenocarcinoma of the colon and rectum Of the cases with the highest grade of malignancy (4) 58 3 per cent showed the highest grade of mucus formation a fact which is difficult to explain since according to Ochsenhirt mucus is a sign of partial differentiation However a high percentage (90 1) of colloid carcinomata of the colon and rectum were of a low grade of malignancy and showed a high grade of mucus formation Therefore the grading of the amount of mucus present in colloid carcinoma is of value as a prognostic factor Grades 1 2 or 3 by Ochsenhirt's classification offer the best chance for postoperative longevity

If the lymph nodes are involved in colloid carcinoma the prognosis is unfavorable regardless of the grade of malignancy or the amount of mucus present

Binkley G E The Care of the Colostomy *Ann Surg* 1929 lxxxix 71

Binkley has found that in cases in which a colostomy has been done lavage of the colon as in colonic irrigation will prevent the expulsion of fæces and the escape of offensive odors for from twenty four to forty eight hours He describes an especially constructed bowl which fits over the colostomy and allows the insertion of a soft rubber catheter into the colon and the attachment of an outflow tube of sufficient diameter to permit the passage of large fæcal masses The irrigation takes from twenty to thirty minutes The only dressing required is a few layers of sterile gauze NATHAN N CROHN M D

Adám L Primary Carcinoma of Bauhin's Valve (Primaerkrebs der Bauhinischen Dickdarmklappe) *Zentralbl f Chir* 1928 p 2187

Primary carcinoma of Bauhin's valve is rare It has the characteristics of carcinoma of the small

intestine Chronic irritation and inflammation apparently play a rôle in its development as the part of the bowel in which it occurs is narrow and curved and favors stagnation of the intestinal contents The tendency toward metastasis is greater than in colon cancer Metastasis occurs along the lymphatics as in carcinoma of the cæcum

Secondary intestinal carcinomata are rare and cause early stenosis because the lymphatics and blood vessels run around the bowel Carcinoma of Bauhin s valve gradually leads to stenosis The adjoining ileum becomes hypertrophied and for a while may overcome the obstruction Colic soon occurs however and finally ileus develops

The author reports the case of a woman fifty two years old who for six months was believed to be suffering from gall stones or duodenal ulcer Finally the pains became localized in the right lower quadrant of the abdomen bowel movements became irregular and ileus developed At operation a carcinoma of Bauhin s valve was found As removal of the tumor was impossible because of the ileus and the patient s poor general condition the ileum was incised near the valve the distal end was closed and the proximal end brought out into the abdominal wound the cæcum and ascending colon were excised and an anastomosis was effected between the ileum and transverse colon Recovery resulted

Histological examination showed the neoplasm to be an adenocarcinoma MANDEL (Z)

Peterson E W Affections of the Appendix in Young Children *Ann Surg* 1929 lxxxix 48

Certain anatomical anomalies and variations help to explain why in early childhood appendicitis is more insidious in its onset than in adult life the inflammation spreads more rapidly and the intoxication is more overpowering However it is not reasonable to conclude that the tendency toward perforation abscess formation or spreading peritonitis is the rule in early life It is far more probable that the majority of cases undiagnosed go on to spontaneous recovery

Peterson reviews the cases of 100 children under eight years of age upon whom he operated for appendicitis Seventy-one of the patients were males In the eight children under twelve months of age the condition was associated with acute intussusception In 25 per cent of the cases a diagnosis of chronic appendicitis was made In 14 cases with this diagnosis the condition was associated with hernia in 1 with acute intussusception in 1 with tonsillitis in 3 with tuberculous mesenteric lymphadenitis and in 2 with pinworm infestation of the appendix The mortality in the total number of cases was 6 per cent There were no deaths in the group of 23 children ranging in age from four months to two years and seven months

The author believes that the incidence of appendicitis in early life is increasing He emphasizes that prompt surgical treatment of the condition gives almost uniformly good results even in infants Delay in the treatment accounts for the high morbidity and mortality in young subjects Irrigation and procrastination are responsible for most of the poor results There appears to be a definite relationship between appendicitis and acute intussusception and between hernia and appendicitis NATHAN N CROHN M D

Bowen W H Notes on the Etiology of Appendicitis *Guy s Hosp Rep* Lond 1929 lxix 61

In sixty-one cases of appendicitis reviewed by the author there were fourteen cases with gangrene and a stercolith four cases with gangrene and without a stercolith two cases with gangrene abscess and stercolith two cases with abscess and a stercolith *but without gangrene five cases with abscess but* without gangrene or a stercolith one case with obstructive distention and a stercolith four cases with obstructive distention without a stercolith two cases with catarrh and a stercolith twenty three cases with catarrh without a stercolith and four cases with catarrh and soft fæcal material but without a stercolith Therefore in 80 per cent of the cases with gangrene a stercolith was present and in 93 per cent of the cases with catarrh there was no stercolith

The author concludes that the main etiological factor in appendicitis is stagnation in the appendix A stercolith or blocking of the cæcal outlet probably determines a fulminating attack of the condition For the cases in which gangrene supervenes in the absence of retention and stercoliths Bowen has no explanation CARL R STEINKE M D

Hahn L J Carcinoma of the Rectum and Rectosigmoid *Ann Surg* 1929 lxxxix 77

This article is based on a study of 160 consecutive cases of carcinoma of the rectum seen at the Mount Sinai Hospital New York on the service and in the private practice of Berg during a period of ten years Eighty four per cent of all cases seen were considered operable The mortality was 18 per cent

Early colostomy may be beneficial in this condition Radiotherapy may be of value as a palliative measure The location and extent of the tumor and the patient s general condition determine the type of operation The simple Kraske operation should be reserved for patients whose general condition does not warrant the risk of a more extensive procedure The combined abdominosacral operation with resection in continuity should be selected for cases in which the growth is high in the rectum since in these cases the *lymphatic involvement does not extend* through the sphincters or the ischiorectal spaces and bowel control can be preserved The Quenu Hartmann operation (abdominalsacral amputation with abdominal colostomy) is indicated when an anastomosis cannot be performed safely when the mesenteric glands are so involved as to necessitate a high resection of the sigmoid and particularly when the portion of the rectum below the third valve of Houston is involved In cases without obstruction each of these operations should be performed in one stage NATHAN N CROHN M D

Chaton M Six Cases of Amputation of the Rectum by Kraske s Sacral Route with Preservation of the Sphincter (Six observations d amputation du rectum par voie sacrée de Kraske avec conservation du sphincter) *Bull et mém Soc nat de chir* 1928 liv 1382

Chaton reports six cases of cancer in which he amputated the rectum by Kraske s sacral rout to avoid an artificial anus One of the patients died immediately after the operation from gangrene In two cases there were postoperative complications which made function of the sphincter impossible A satisfactory result was obtained in only two cases The sixth case is still under treatment and has reached the stage of closure of the artificial anus

The author concludes that the results were not such as to encourage him to continue this method of operating While the immediate results with regard to life might be improved by the use of anti gangrene serum he thinks that in many cases the desired functional result cannot be obtained because of a lack of material If the rules regarding the removal of tissue in cancer are observed the method can be used only for tumors ranging from the size of a hazel nut to that of a walnut Most cases seen by the surgeon are advanced farther than this In the more advanced cases Chaton will hereafter perform an abdominoperineal resection with preservation of the sphincter and lowering of the sigmoid Because of its well developed mesentery the sigmoid is the part of the intestine best adapted to this procedure The abdominoperineal method is the only one that gives a good view of the field of operation

AUDREY G MORGAN M D

LIVER GALL BLADDER PANCREAS AND SPLEEN

Chabrol E and Maximin M The Inhibiting Action of Magnesium Sulphate on the Liver Secretion of Bile (L action inhibitrice du sulfate de magnesie sur la secretion hepatique de la bile) *Bull et mém Soc méd d hôp de Par* 1928 xliv 1693

In experiments on dogs the gall bladder was excluded by ligation of the cystic duct and 0 15 mgm of magnesium sulphate per kilogram of body weight was injected intravenously The amount of bile which had varied from 7 to 8 c cm per half hour quickly fell to 3 or 4 c cm in two hours The bile was darker than it had been before the injection the pigment content per cubic centimeter being tripled and the color being that of B bile As the gall bladder had been excluded functionally by ligation of the cystic duct the bile could not have been gall bladder bile and must have been B bile of hepatic origin

The inhibiting action of magnesium sulphate on bile secretion was shown also in the case of a dog which was given bile salts and atophan four hours after the magnesium sulphate injection The very strong cholagogue action of the bile salts and atophan was completely inhibited A gram of atophan did not have any cholagogue action until after five hours and a half Magnesium sulphate inhibits the action of bile salts and atophan also when it is given after their administration

AUDREY G MORGAN M D

Dew H Operative Treatment of Hydatid Cysts of the Liver *Surg Gynec & Obst* 1929 xlviii 239

In about 70 per cent of cases of hydatid disease the liver is involved It may contain simple univesicular or multivesicular cysts with or without daughter cysts These cysts may be complicated by suppuration or may rupture into the biliary channels the chest or the abdomen In every instance in which hydatid infection of the liver is suspected an X ray examination to detect distortion of the diaphragm should be made since in about 60 per cent of the cases multiple cysts are present

Operation for hydatid cysts is best performed under general anæsthesia The incision should be adequate for exposure of the suspected area In non urgent cases it is best to perform the operation in two stages In the first stage the serous surfaces of the cyst and the pleural or peritoneal tissues should be painted with 5 per cent iodine and tamponade with gauze should be done to produce adhesions Two or three weeks later incision and evacuation of the cyst may be carried out through the adhesions

The edges of the skin wound the stomach and the intestine must be carefully packed off with gauze to prevent contamination when the cyst is evacuated as implantation occurs readily Simple cysts can be evacuated easily by means of a two way needle and syringe which permit evacuation of the cyst and the introduction of pure formalin without removal of the needle The formalin should then be withdrawn and the cyst filled with normal saline solution and closed

Multiple cysts or infected cysts must be incised evacuated thoroughly and swabbed with 4 per cent formalin or 90 per cent alcohol before closure No attempt should be made to remove the thick fibrous adventitia completely Closure of the cyst may be partial or complete depending on the presence or absence of complications All complicated cysts should be drained by a wide bored rubber tube

The complement fixation test elaborated by Fairley is of great aid in the detection of residual cysts and in the prognosis

In cases of simple uncomplicated cysts the results are very satisfactory In cases with suppuration the mortality is about 20 per cent and in cases with intrapleural or intravesicle ruptures approximately 50 per cent

STANLEY H MENTZER M D

Case J T The Interpretation of Cholecystographic Findings *Ann Surg* 1929 lxxxix 221

Previous to Graham s report in 1924 relative to the use of dye in the roentgen examination of the gall bladder the only reliable direct evidence of

gall bladder disease was the demonstration of stones containing enough calcium to cast a shadow

The indirect evidence of such disease included (1) an inconstant deformity of the duodenal bulb (2) a gall bladder impression in the duodenum (3) *evidence of adhesions involving the duodenum* beyond the duodenal bulb (duodenitis) (4) spasmodic manifestations in the stomach (5) hepatofixation of the stomach and (6) visualization of the gall bladder *These indirect signs permitted considerable* error although hepatofixation of the stomach mid gastric spasm and adhesions about the duodenum beyond the bulb are of considerable significance

In the author's technique for cholecystography tetra iodophenolphthalein is given intravenously between 4 and 5 30 p m and the first roentgenogram is made at 8 o clock the following morning If the roentgenogram is satisfactory the patient is given a breakfast containing as much fat as possible and is told to return at 12 o clock for further X ray study

The dye is given intravenously at the elbow by the old gravity method of administering salvarsan Ringer's solution is first introduced into the vein from a burette and is followed by the solution of tetra iodophenolphthalein in from 75 to 100 c cm of warm Ringer's solution Then from 15 to 20 c cm of clear Ringer's solution is run into the vein to wash out all of the dye before the needle is withdrawn The dye is prepared by dissolving *3½ gm of tetra iodophenolphthalein in from 25 to 30* c cm of sterile Ringer's solution and boiling the preparation on a water bath for fifteen minutes The author has discontinued the use of tetrabromophthalein because it frequently caused a temporary fall in the blood pressure which alarmed the patient Following the late afternoon procedure the patient is given a carbohydrate supper free from fat and protein

Both the oral and the intravenous administration of the dye is followed by digestive disturbances manifested by headache vomiting and nausea but the oral administration is followed also by purging

The intravenous administration has an advantage over the oral administration as it makes it possible to know how much of the dye is in the system When the oral route is used some of the dye may be *lost by vomiting or the amount of available dye* may be reduced by incomplete absorption of the capsules Advanced cardiorenal disease is a contra indication to the intravenous Graham test

If gall stones contain enough calcium to cast a shadow the Graham test is unnecessary except as a means of identifying other structures

Of seventy seven cases in which a diagnosis of stone was made by the Graham test stones were revealed at operation in seventy four

Failure to discover a gall bladder shadow in the Graham test especially when the dye has been given intravenously constitutes the most reliable and important evidence of disease of the *biliary tract* Normally the dye-containing bile passes freely from the common duct into the gall bladder where it attains a concentration so pronounced that the gall bladder shadow is clearly evident in the roentgenogram In brief failure to visualize the gall bladder may be due to (1) cystic duct obstruction (2) stones filling the gall bladder (3) disease of the gall bladder wall which interferes with the activity of the organ (4) stones or other obstructions in the common duct (5) organic disease of the pancreas *or liver or (6) the patient's failure to follow diet* instructions

The results of the Graham test in the author's 277 surgical cases were as follows

OPERATIVE CHECK OF THE GENERAL VALUE OF THE GRAHAM TEST

Gallbladder report	Cases	Errors	Diagnostic accuracy
Stone	77	3	96 1
Absence of shadow	70	2	97 5
Pathological non calculous	85	14	83 6
Normal	36	7	83 4
Total	277	26	90 0

CHARLES F DUBOIS M D

Bengolea and Suarez Surgical Operation in Lithiasis Complicated by Icterus (L intervention chirurgicale dans la lithiase biliaire compliquée d'ictère) *Bull et mém Soc nat de chir* 1918 liv 1430

Lithiasis even when limited to the gall bladder *may be associated with icterus As the icterus may* be due to insufficiency of the liver any operation on a patient with icterus involves some risk The authors cite a case of icterus caused by a lesion of the *parenchyma* of the liver in which the trauma of operation made the condition worse and death resulted They believe that unless there is some urgent reason for immediate operation in a case of lithiasis with icterus an attempt should be made to improve the patient's condition before operation by sounding the duodenum by the Vincent Lyon method In a series of thirty six cases they operated immediately in only two In the thirty four others they first tried sounding of the duodenum *In twenty one of the* latter operation was performed later In two of the thirteen in which operation was not performed bile calculi were found in the stools and in the others the *symptoms of lithiasis were marked*

Sounding of the duodenum proved valuable both in the diagnosis and treatment Total absence of bile in the duodenal fluid of a patient with icterus suggests obliteration of the bile tract by a tumor In a number of the author's cases in which operation was performed ultimately sounding of the duodenum led to a marked decrease in the icterus if not its complete disappearance and rendered the patient a better operative risk *Of the thirteen patients* treated only by sounding of the duodenum two died from tumor and nine recovered completely In one case recovery followed the passage of four muriform *calculi in the stool* All of the patients who recovered are at present in excellent condition

The authors recommend systematic medical treatment in all cases with observation of the intensity of the icterus the amount and appearance of the urine the color of the fæces and the fever curve each day and recording of the weight every five days Generally the reappearance of bile in the duodenal fluid is accompanied by a decrease in the icterus disappearance of the pruritus, an increase in the amount and clearness of the urine and a better color of the stools

The authors found that the patients who were benefited most by the treatment described were those with stones only in the gall bladder When the symptoms recur after duodenal sounding operation is indicated Fever and a loss of weight may indicate an emergency operation

AUDREY G MORGAN M D

Baló J and Ballon H C The Effects of the Retention of Pancreatic Secretion *Surg Gynec & Obst* 1928 xlviii 1

From a series of 963 consecutive autopsies the authors have collected a considerable number of cases showing the effects of obstruction on the pancreas and pancreatic ducts

They report 4 cases of simple catarrhal jaundice without stone These showed swelling of the duodenum and the papilla of Vater with retention of pancreatic secretion jaundice and focal necrosis in the pancreas due to the retention of pancreatic juice In 3 cases the swelling of the duodenal mucous membrane was due to incompetent heart action secondary to endocarditis The marked dilatation of the pancreatic acini found in 3 cases was due to the retention of the pancreatic juice The only anatomical lesions discovered that would adequately explain the dilatation of the ducts were swelling of the duodenal mucous membrane and of the papilla of Vater In all of these 3 cases the pancreas presented circumscribed areas of necrosis As no histological evidence of embolic changes were present in the pancreas these lesions were probably due to the retention and stasis of the pancreatic secretion secondary to the swelling of the duodenal mucous membrane and the papilla of Vater

In 1 case the catarrhal jaundice followed a dietary indiscretion which apparently produced a gastroduodenitis with cholangeitis The pancreatic ducts were dilated up to the end chambers The islands of Langerhans showed a well marked hypertrophy such as can be produced experimentally by starvation and ligation of the main pancreatic duct It is assumed that in this case the swelling of the papilla of Vater was comparable to partial ligation of the pancreatic duct

As examples of chronic pathological alterations of the papilla of Vater which may produce similar changes in the pancreas the authors report 6 cases of obstruction or scar tissue formation at the papilla due to biliary calculi In each certain characteristic changes occurred in the pancreas as the result of the obstruction In some of them a compensatory rearrangement of the pancreatic duct system took place When areas of focal necrosis developed fat replacement occurred when the detritus was absorbed In experiments on animals fat replacement of pancreatic glandular tissue has been observed after ligation of the pancreatic duct The islands of Langerhans remained intact in these studies as in the clinical cases reported In some of the cases reviewed there were cysts of the pancreas caused probably by a partial shrinkage or blockage of the ducts with consequent dilatation of the distal portion

Obstruction at the papilla was caused in 1 case by a benign polyp and in 2 cases by a malignant tumor In other cases compression of the pancreatic ducts was due to pancreatic lithiasis tuberculosis gummata or prosoplastic proliferation of the duct epithelium

Apparently variations in the blood lipase occur following duct obstruction when pancreatic lipase enters the circulation or is produced in excess as the result of the retention of pancreatic juice within the pancreas

In 2 cases of retention of pancreatic secretion caused by carcinoma of the papilla there were changes in the nervous system consisting mainly of degeneration in the posterior columns Syphilis was ruled out in both instances In cases of pancreatic fat necrosis there is apparently a hæmatogenous distribution of ferments as necrosis has been found in remote organs and tissues It is believed that the symptoms referable to the nervous system may be explained upon the same basis

STANLEY H MENTZER M D

McClenahan W U and Norris G W Adenoma of the Islands of Langerhans with Associated Hypoglycæmia *Am J M Sc* 1929 clxxvii 93

The chief symptoms in the case reported were loss of memory and vaguely defined periods of feeling queer the latter relieved by the ingestion of food On the patient's admission to the hospital the findings of physical examination were essentially negative and a provisional diagnosis of epidemic encephalitis was made At 5 o clock the next morning the patient was found to be comatose During the three days just preceding his death the blood sugar determinations were 40 42 and 38 mgm per 100 c cm Glucose was given intravenously by gavage and by rectum but the amounts were relatively small

Autopsy revealed extensive bronchopneumonia which had developed forty eight hours before death generalized arteriosclerosis a moderate degree of chronic myocarditis nephritis of arteriosclerotic origin cerebral arteriosclerosis with meningeal and cerebral irritation manifested by slight perivascular round-cell accumulations of undetermined origin a soft round reddish brown lobulated and circumscribed nodule measuring 15 by 7 by 16 mm on the anterior aspect of the pancreas at the juncture of the middle and distal thirds On section the tumor was found to be a vascular adenoma surrounded by

a delicate fibrous capsule Associated with the adenoma there was a marked increase in the size and number of the islands in the adjacent pancreatic tissue The adrenal liver and pituitary were negative grossly and microscopically

The presence of a pancreatic lesion with lowering of the blood sugar suggested the presence of hyperinsulism In five cases of hypoglycæmia in non diabetic patients which were reported by Harris the cardinal symptom was weakness especially before the noon meal which was relieved by frequent feeding During the fasting state the blood sugar averaged 60 mgm per 100 c cm Cammidge and Pemberton have reported similar cases but as none of these cases was fatal during the period of observation conclusions could be drawn from clinical findings only Most of these observers seem to agree that hyperinsulism may be a disease entity in which the liver adrenals pituitary and thyroid may play a rôle

In a review of the literature on adenoma of the islands of Langerhans up to 1926 Warren found that hyperplasia of the surrounding islands was present in five of the twenty cases reported In Cecil's opinion the tumors are a part of a generalized hyperplasia of the islands but Warren states that the lack of correlation with other lesions is rather against the interpretation of these tumors as hyperplastic islands

In the authors case the size and encapsulation of the lesion and the compression of the surrounding pancreatic tissue suggested that the tumor was an adenoma but the presence of many large islands in the surrounding tissue suggested that it was a greatly hypertrophied island The question as to whether hyperplasia of the islands is responsible for or secondary to the increased carbohydrate intake is a debatable one Hypertrophied islands of sufficient size to be considered adenomata have been found in diabetics Hypertrophy and adenomata of the islands of Langerhans may occur without any demonstrable disturbances of carbohydrate metabolism In the twenty cases reviewed by Warren the pancreatic lesions were subsidiary findings with no apparent clinical significance

However the authors case strongly suggests that under certain conditions there is a definite relationship between the adenoma and a particular syndrome possibly because the tumor cells retain the function of the parent cells Parallel lesions in other glands of internal secretion are adenomata of the pituitary and thyroid which are associated with definite disease entities E S Platt M D

Aurousseau and Armingeat Traumatic Rupture of the Spleen and Pancreas Early Operation Recovery (Rupture tramatique de la rate et du pancréas opération précoce guérison) *B lle et mém Soc nal de ch* 1928 liv 1370

A girl ten years of age was struck by an automobile and brought to the hospital in a condition of shock half an hour later On her admission she was pale and covered with cold sweat Her temperature was 36 5 degrees C and her pulse 150 and weak The abdomen was in a condition of general contraction and slightly sensitive No particularly painful zone could be found in the abdomen but intense pain was caused by pressure on the left sixth rib in the anterior axillary line There was no fracture of the rib

Treatment with warmth and the injection of heart stimulants was given but two hour and a half after the accident the patient was still extremely pale her extremities were cold her pulse was 160 and weak and her temperature had risen to 38 8 degrees C Vomiting of food occurred twice but there was no blood in the vomitus The urine was clear The abdomen had become soft and was painless except in the left hypochondrium where there was localized rigidity and pain was revealed on palpation There was no dullness in the flanks A diagnosis of rupture of the spleen with hæmorrhage was made

Exploration through a left subcostal transverse incision revealed a tear 2 cm long in the spleen and a vertical rupture of the whole width of the pancreas that looked as if it has been made by a sharp instrument The spleen was removed and the wound in the pancreas sutured Recovery resulted without fistula formation

In another case a lesion of the pancreas was latent for twenty hours and death occurred three hours after operation

In the first case the early symptoms were those of internal hæmorrhage and only the extension of the pain and the contracture in the epigastric region after the first generalized contracture had disappeared suggested a pancreatic lesion

The authors believe that in any case of traumatism of the upper part of the abdomen particularly if the epigastrium has been struck there should be no hesitancy in operating if the slightest symptoms develop The possibility of a lesion of the pancreas should be borne in mind particularly if the patient is a child The transverse incision allows exploration of the kidney spleen pancreas and stomach The authors regard their case as of special interest because a complete rupture of the pancreas was followed by recovery without fistula formation although they were unable to find and ligate the ends of Wirsung's duct They attribute the cure to the daily injection of atropin and the use of Wohlgemuth's diet after the fourth day but Mocquot who reported their case before the Society thinks the value of this treatment is doubtful

Audrey G Morgan M D

McNee J W Splenomegaly in Britain Investigations into the Etiology Pathology and Relative Frequency with a Tentative Classification *Glasgow M J 1929 cxi 65*

The author states that in all vertebrates the spleen is covered by a capsule In man the capsule is a fibro-elastic tissue but in some of the lower animals (dog cat and goat) it contains muscle fibers also In fish and many of the vertebrates splenic trabeculæ

are absent The splenic pulp is variable but consists primarily of a reticulum supporting large amœboic phagocytic cells and branching multipolar cells between which lie the normal blood constituents

A true spleen apparently first appears in the pisces The spleens of fish are well known for their large size in proportion to the bulk of the body It seems that as evolution progressed and differentiation became more complex the spleen decreased in size but became more complex in structure The spleen of fish contains neither trabeculæ nor malpighian corpuscles and in many instances is composed of separate lobules each visible to the naked eye Each lobule is a splenic unit in itself which is joined to the others by a stalk containing the main blood vessels

There are many differences between the spleens of reptilia and pisces The first suggestion of malpighian corpuscles occurs in reptilia In the crocodile the spleen has small aggregations of lymphocytes resembling the malpighian structure in the pulp and is divided into definite lobules numbering probably 300 in all The circulation appears to be entirely closed

In snakes the spleen is small and closely associated with the pancreas In one snake examined the spleen and pancreas were incorporated and had a common blood supply In the spleen of the snake there are no malpighian corpuscles and the blood supply is a completely closed circulation

In birds the structure of the spleen is much more complex and variable Some avian spleens are muscular and others are not Some have no trabeculæ while others are richly supplied with them There is apparently considerable difference between the spleens of ferocious birds and birds with mild habits

In mammalia transitional stages in splenic structure are evident Definite lobularity can still be made out and malpighian corpuscles are always present The spleens of primates are so alike that it is impossible to distinguish them histologically

The vascular system of the spleen is unique The splenic artery is remarkable for its large caliber In the ox the splenic artery enters as a single structure whereas in the dog as many as thirty branches penetrate the spleen The main branches are tortuous and spring like permitting the spleen to dilate and contract without interfering with its blood supply The final arterial divisions are two penicilli which are end arteries Enveloping and surrounding the penicilli are club like masses of tissue called ellipsoids The ellipsoids act as valves preventing the regurgitation of venous blood into the arterial system

The splenic vein is also remarkable for its size In the ox the splenic vein has a diameter five times greater than that of the artery There are minute openings in the walls of the veins termed stigmata Blood flows through these stigmata in the walls of the venous sinuses from channels or spaces in the splenic parenchyma unlined by endothelium The venous sinuses are small open spaces in the splenic pulp which are lined by large endothelial cells and contain the normal blood constituents and large phagocytic cells In many normal animals the latter always contain ingested red blood corpuscles or their débris The splenic vein responds to irritation by local contraction that is so intense it practically obliterates the lumen of the vein at the site of the irritation

The spleen has remarkable powers of contraction during exercise It has been shown that in the dog after exercise the spleen expresses approximately one fifth of the total volume of the circulating blood of the body

A knowledge of the circulation of blood in the spleen in various animals aids in understanding the mechanism of splenomegaly In the higher animals there is apparently a two way circulation through the spleen one route avoiding and the other traversing the pulp The closed circulation passes through the splenic artery venous sinus and vein whereas the open circulation enters the splenic artery and channels in the wall of the ellipsoid passes through the splenic pulp and enters the veins by way of the stigmata This hypothesis of a two way circulation is of importance with regard to the action of the splenic pulp as a reservoir to be emptied on physiological demand Any obstruction to the splenic vein must dam back blood in the splenic pulp and the venous sinuses As no reflux can occur through the ellipsoids it is obviously at this point that arterial pressure and venous back pressure meet

Ligation of the splenic veins leads not to chronic splenomegaly but to atrophy after temporary enlargement Chronic splenomegaly must be due to local pathological changes within the organ itself

STANLEY H MENTZER M D

MISCELLANEOUS

Love R J McN The Treatment of Some Acute Abdominal Disorders *Lancet* 1929 ccxvi 375

Cases of acute appendicitis may be divided clinically into three groups—the early cases the intermediate cases in which the infection has spread beyond the appendix but is limited to the right iliac fossa and the late cases in which the general peritoneal cavity is involved

When operation is performed in cases of general peritonitis the appendix should be removed if possible but with minimal exposure and manipulation Unnecessary manipulation increases the lymphatic and venous absorption of toxins In the induction of anæsthesia chloroform is contra indicated on account of its unfavorable effect on the liver cells If the general condition is so precarious that the risk of operation is obviously high expectant treatment should be given a trial In profoundly toxic cases the rectal administration of glucose in saline solution is a valuable aid

When the inflammation is limited to the right iliac fossa appendectomy may be extremely difficult However gentle the manipulation the early

protective adhesions may be easily separated with the resulting development of general peritonitis Therefore in the author s cases of this type operation is often delayed The patient is placed in Fowler s position fomentations are applied locally to relieve the pain and only water is given by mouth No aperient is administered If distention is present a low enema is given The patient is kept in bed for a week after the temperature and pulse have returned to normal Operation is indicated by the persistence of a rapid pulse elevation of the temperature the formation of an abscess which increases in size or the slow absorption of an abscess

In the cases of patients whose resistance is low expectant treatment is usually not advisable If it is possible the patient should return to the hospital for an appendectomy three months later

Generalized infection of the peritoneum is a much less common complication of inflammation of the gall bladder than of appendicitis The problems in the treatment of acute cholecystitis resemble *those of acute appendicitis However when operation is to be delayed in acute cholecystitis a dose of* morphine is advisable Expectant treatment has a lower mortality than immediate operation and makes it possible later to perform cholecystectomy rather than cholecystostomy The two chief objections to delay of operation are that the patient may refuse surgical treatment later and that in acute cholecystitis there is a greater possibility of error in the diagnosis than in acute appendicitis When there is doubt as to the diagnosis expectant treatment is not advisable A frequent indication of acute cholecystitis is the sign of Boas hyperæsthesia of the seventh eighth and ninth thoracic segments This is best detected below the angle of the right scapula and depends upon distention of the gall bladder with consequent stretching of the visceral peritoneum

Until recently the diagnosis of acute pancreatitis was seldom made before surgical exploration The cause of the condition is obscure but is most commonly held to be infection by the lymphatic route or the regurgitation of infected bile along the pancreatic duct

The operative measures used in acute pancreatitis *are local drainage of the pancreatic area drainage of the gall bladder or biliary passages and incision and* drainage of the pancreas itself The last method is not recommended SAMUEL KAHN M D

GYNECOLOGY

UTERUS

Baer J L and Reis R A The Interposition Operation for Prolapse of the Uterus *Am J Obst & Gyn* 1929 xvii 233

This report is based on ninety one consecutive interposition operations for prolapse of the uterus Of the patients who were examined from five months to seven years after the operation 92 per cent were found to be cured There was one death from cerebral embolism a mortality of 1 1 per cent

At the Michael Reese Hospital Chicago the interposition operation is the procedure of choice in 40 per cent of the cases of prolapse It is selected for patients with a large cystocele and a uterine corpus which is freely movable and neither too small nor too large and who are free from gross lesions in the adnexa Sterilization is done when necessary

In the presence of elongation or disease of the cervix cervical amputation or repair is essential A well constructed perineal body is most important for the success of the procedure

In the discussion of this report DANFORTH stated that the interposition operation is applicable to cases of prolapse with a marked degree of cystocele in which the prolapse seems moderate that is the cervix is of normal length and protrudes only very slightly or not at all beyond the vulva

CULBERTSON said that the limitations placed upon the operation by Watkins have not been observed by gynecologists and surgeons in general who have performed the operation for procidentia Culbertson has performed it a considerable number of times but not in any case in which the uterus came out or in which the cervix came out unless the prolapse of the cervix was due to elongation In two or three cases in which amputation of the cervix left enough of the uterus to act as a support for the bladder he performed the operation with care to fix the cervix in the posterior vaginal wall in association with transposition

HEANEY said that he has become more stringent with regard to the indications for the interposition operation He believes that in cases of enormous cystocele there is nothing as efficacious as the transposition operation providing the uterus is not too low F I CORNELL M D

Meaker S R and Glaser W The Hydrogen Ion Concentration of the Endocervical Secretions with Special Reference to Chemical Factors in the Causation of Sterility *Surg Gyn & Obst* 1929 xlix 3

The authors report 100 determinations of the hydrogen ion concentration of the cervical secretions of 95 women

The vaginal content of moisture is composed of mucus secretion from the cervix desquamated epithelial cells and the products of their disintegration bacteria and the products of their activity and intrinsic vaginal fluid which is not a secretion but a transudation of extravascular lymph through the epithelial layers

Ordinarily the vaginal reaction is unimportant in relation to fertility and sterility but an excessive vaginal acidity may cause sterility

The theory that the vaginal chemistry is somewhat controlled by the ovaries seems to the authors to be untenable

In infection the general tendency is toward alkalinity Danin suggested that an alkaline vaginal reaction may be important in the diagnosis of gonorrhœa

It is generally believed that the cervical secretion may be acid in some cases and excessively alkaline in others but the cervical reaction is almost constantly and definitely alkaline ranging from pH 8 0 to pH 9 0 and being above pH 8 5 in 80 per cent of cases

The authors describe the technique of obtaining the secretion for study As only a small amount is available a drop of it is placed in a depression of a glazed white porcelain plate and drops of several standard solutions are placed in other depressions A drop of indicator is then added to the secretion and the standard solutions and stirred in with a glass rod and the reading is made by direct comparison

The lowest value encountered in the authors studies was pH 8 0 and the highest pH 9 0 In 84 per cent the values were above pH 8 5

Age parity hypoplasia the menstrual cycle endocervicitis and viscosity of the endocervical mucus do not notably influence the cervical reaction

MAGNUS P URNES M D

Pemberton F A and Smith G Van S The Early Diagnosis and Prevention of Carcinoma of the Cervix *Am J Obst & Gyn* 1929 xvii 165

The authors briefly summarize the histology of the normal and pathological uterine cervix and describe the precancerous and early cancerous changes in this part of the uterus They state that long experience in the study of cervical tissue is necessary to decide in any given instance whether cancer is present or not

Of 669 cases of carcinoma of the cervix 2 39 per cent were diagnosed on the basis of the findings of microscopic examination the gross findings being inadequate In the authors opinion there should be no hesitation with regard to biopsy In the series of cases reviewed no harm is known to have resulted from the procedure and in 10 of the 16 cases of

early carcinoma it was a *life saving measure* In the 6 other cases of carcinoma the nature of the condition was revealed by routine microscopic examination of trachelorrhaphy specimens

The fact that only 5 of 3 814 patients subjected to trachelorrhaphy none of 1 408 subjected to cauterization of the cervix and none of 740 sub jected to amputation of the cervix are known to have developed carcinoma suggests that treatment of the diseased cervix may be a prophylactic meas ure against cancer This is indicated also by the fact that only 12 of 669 patients with carcinoma of the cervix had had a trachelorrhaphy and none had had a cauterization or amputation

A long continued follow up of patients whose cervical specimens were microscopically suspicious failed to reveal the development of carcinoma in any instance

In conclusion the authors state that while in some instances it cannot be decided from micro copic examination whether cancer is present or not in the majority of cases the decision may be made quite definitely E L Cornell M D

Martzloff K H Cancer of the Cervix Uteri The Value of Biopsy Material for Prognosis and Treatment *Northwest Med* 1929 xxviii 74

This study is based on seventy specimens of can cer of the cervix uteri obtained at operation at the *Johns Hopkins Hospital Baltimore In each in* stance biopsy material was available for compari son with the histological structure of the parent tumor The object of the investigation was to as certain the extent to which the cytomorphological findings in biop y material reflect the histological picture of the parent tumor insofar as the pre dominating type of cancer cell is concerned

In thirteen (30 per cent) of forty three specimens of transitional cell cancer (cells with a faint or in definite cell membrane and a scanty cytoplasm which resembled the more deeply situated cells of normal cervical epithelium) the study of the biopsy material revealed a histological picture that did not satisfactorily reflect the cytomorphological findings in the parent tumor *In four of these thirteen* specimens the biopsy material erroneously indicated a spindle cell cancer whereas in the remaining nine it failed to reveal the predominant variety of cell

In three (50 per cent) of six specimens of pinal cell cancer (polyhedral cells with well-defined membranes a large nucleus and abundant cyto *plasm which resembled the superficial portion of* normal stratified cervical epithelium) it was im possible from the biopsy material definitely to de termine the predominant cell

In four (36 per cent) of eleven specimens of pindle cell cancer (spindle shaped cells) the biopsy ma terial did not indicate the predominant cell of the parent tumor

In the group of cancers in which spinal and transi tional-cell types occurred in about equal proportions it was found that in four (40 per cent) the biopsy material did not bear out the findings in the parent tumor in that they indicated a predominance of transitional cells

From his study the author concludes that biopsy material from cervical carcinoma will fail to in dicate the predominant variety of cell in the parent tumor in about 33⅓ per cent of the cases Therefore *any studies treatment or prognosis based solely* on biopsy material may be incorrect

Alice F Maxwell M D

Grandclaude C and Liegeois M Bacteriological Study of the Infectious Conditions Complicat ing Cancer of the Uterine Cervix (Contributi n à l étude bactériologique des états infect eux ura joutés dans le cancer du col de l uterus) *Presse ? éd* Par 1928 xxxvi 1271

When X ray irradiation used in the treatment of cancer of the uterine cervix causes secondary infec tion it acts less by increasing the virulence of the bacteria than by weakening the defense of the tis sues Traumatisms attributable to dilatation of the cervix may also be a factor The micro-organisms most common in cancers of the natural cavities of the body are the bacillus coli Hoffmann s bacillus enterococcus micrococcus tetragenus staphylococci and streptococci The fuso pirillary bodies frequent in cancer of the mouth are but rarely found in cervi cal neoplasms Of the anaérobes the most common *is the bacillus perfringens*

Recent literature on infections complicating can cer of the cervix is reviewed In the authors exami nations of seventy patients with infected cervical cancers they found staphylococci in sixty five cases the micrococcus tetragenus in fifteen pseudodiph theria bacilli in six and strepto-enterococci in sev enty Thirty five cultures made on anaerobic media showed the anaerobic streptococcus in twenty ca es the bacillus perfringens in nine cases and the bacil lus putrificus in two cases In general the staphylo coccus and micrococcus tetragenus presented no virulent characteristics Two strains of staphylococ cus aureus produced a very active toxin The pre dominance of the strepto enterococcus group in secondary infections of cervical tumors *was con* firmed

Four specimens of streptococcus hæmolyticus were obtained These organisms in blood bouillon produced a toxin which in dilutions of from 1 500 to 1 1 000 caused positive intradermal reactions in man and animals

The anaerobic streptococci i olated by the authors were of three distinct varieties (1) the micros type with long chains not liquefying gelatin and not giv ing off gas or a fœtid odor in bioprotein media (2) streptococcus putridus with large cocci not liquefy ing gelatin not coagulating milk and in bouillon producing a uniform cloudiness with gas and (3) streptococcus evolutus an anaérobe by predilec tion *which liquefies gelatin coagulates milk and* does not produce gas Of the twenty strains isolated four belonged to Group 1 six to Group 2 and ten to

Group 3 The authors believe that these strepto anaerobes may be the cause of the bacteriæmias in patients with secondarily infected cancer of the cervix PACE

Petersen E Clinical Studies of the Treatment of Cancer of the Uterus Especially Radium Treatment (Klinische Studien ueber die Behandlung des Gebaermutterkrebses namentlich ueber Radiumbehandlung) *Bibliot f Læger* 1928 cxx 3 7

Following a discussion of the modern treatment of carcinoma of the uterus the author reviews the results obtained in cases treated at the Copenhagen University clinic during the period from 1920 to 1922 The shortest period of observation is five years

In carcinoma of the cervix a radical operation preferably the Wertheim procedure is done when there are no indications of extension of the disease beyond the uterus In all other cases a combination of radium and roentgen treatment is given This is similar to that employed at Radiumhemmet in Stockholm but the doses of radium are somewhat larger than those usually employed by Heyman The author reviews seventy inoperable cases treated in this manner Nineteen of the patients were cured that is they showed no sign of recurrence after a period of at least five years The incidence of cure was therefore 27 4 per cent The other patients either developed a recurrence or died of some other condition without signs of recurrence Three patients could not be traced One patient died of acute diffuse peritonitis following the radium treatment In calculating the incidence of cure the author includes the patients who could not be traced and those who died of other diseases with those who developed a recurrence

A marked difference was noted between patients from Copenhagen and those from the provinces In the former the incidence of cure was 32 4 per cent whereas in the latter it was only 21 9 per cent The author explains this difference by assuming that most patients from the provinces came for treatment later and many of them had had a previous curettage and cauterization a treatment which must be regarded as contra indicated when radium treatment is to be given

A difference was noted also between the younger and the older patients Of eighteen women under forty years of age only one was cured of nineteen between forty and forty nine years of age four were cured of nineteen between fifty and fifty nine years of age eight were cured and of thirteen over sixty years of age six were cured

For cancer of the body of the uterus radium roentgen treatment is recommended if operative treatment is contra indicated for any reason

On the basis of this study the author draws the following conclusions

In cancer of the cervix the radical operation is most effective treatment when the patient is under fifty years of age the disease is limited to the uterus and surgical intervention is not associated with too great risk After the age of fifty years radium roentgen treatment gives better results When radium is to be used curettage and cauterization are contra indicated

In cancer of the body of the uterus operative treatment—preferably vaginal hysterectomy—is the procedure of choice In technically operable cases radium roentgen treatment comes into consideration only when there is some contra indication to operation but has proved more effective than was anticipated GAMMELTOFT (G)

Corscaden J A and Stout A P Sarcoma of the Uterus *Am J Roentgenol* 1929 xxi 155

Corscaden and Stout state that there are malignant neoplasms which seem to originate from fibromyomata They are sometimes but not always characterized by degenerations hæmorrhages mitoses and changes in the size shape number of nuclei and arrangement of the cells They show a marked tendency to invade the surrounding tissues and veins and sometimes to metastasize through the blood stream They are very rare neoplasms being found in probably less than half of 1 per cent of the fibromyomata removed by operation

From 1 5 to 11 5 per cent of surgically removed fibromyomata show morphological changes more or less closely resembling those of the proved malignant neoplasms but according to statistics such tumors cause no more embarrassment to the host than other fibromyomata

There are a few cases on record in which histologically pure fibromyomata have shown invasive growth and have metastasized

In the absence of invasive growth and metastasis there seems to be no unfailing criterion of malignancy in neoplasms arising in fibromyomata

During the past thirty years many thousands of cases of fibromyoma of the uterus have been treated by radiotherapy During the same period there were reported four cases of sarcoma of the uterus in fibromyomata which were treated by irradiation

As the operative mortality of hysterectomy is as great as or greater than the incidence of malignant neoplasms arising from fibromyomata removal of the uterus as a prophylactic measure against the possible development of malignancy is not justifiable

The menace of sarcoma should not alter the present policy of alert conservatism in the management of fibromyomata nor prevent the use of radium and the roentgen rays for these tumors

ROLAND S CRON M D

Lepper E H and Martland M The Bacteriology of a Series of Uteri Removed at Operation *Lancet* 1929 ccxvi 492

The authors have found that micro-organisms are present in the interior of the uterus more frequently than is commonly supposed Also that various

micro organisms including the bacillus welchii may occur unsuspected It is impossible to determine the nature or even the presence of infecting micro organisms from the gross appearance of such tumors A fibroid containing anaerobic bacilli which was seen by the authors showed no features by which it could be distinguished from many others in which no evidence of infection could be discovered Red coloration of a fibroid does not necessarily indicate the presence of the bacillus welchii In the only case of red fibroid in the authors series a streptococcus was isolated The production of a pink color of muscle in meat medium which was supposed to be a specific action of anaerobic bacilli was caused by other micro-organisms grown in the same medium notably streptococci Apparently any micro-organism which grows well in a meat medium without causing much change in the reaction will produce the conditions necessary for the reduction of the cytochrome of muscle the change which is responsible for the pink color Microscopic examination of the tissues may show changes suggestive of anaerobic infection and the bacilli may be demonstrated but they are difficult to detect because of their tendency to localize in small scattered areas

It is therefore impossible to diagnose these latent infections at operation and their recognition by the pathologist may come too late to be of service to the surgeon since it is impracticable to make culture and microscopic sections of every fibroid removed Therefore it is well to remember that signs of toxæmia with or without fever following the removal of uterine tumors may be caused by the bacillus welchii The clinical picture of such a toxæmia described by Nurnberger and Lehman is sufficiently characteristic to justify treatment with serum even if the bacillus has not been found It seems probable that gentle handling of the tumors during their removal with avoidance of bruising or injury to tissues may be of the utmost importance to prevent generalized infection

ROLAND S CRON M D

ADNEXAL AND PERIUTERINE CONDITIONS

Horálek F Salpingitis Isthmica Nodosa and Posttuberculous Changes in the Adnexa A Histogenetic Study (Salpingitis isthmica nodosa und die posttuberkuloesen Adnexveraenderungen Eine histogenetische Studie) 1918 Prague Topic

Tuberculous infection of the fallopian tubes may occur by way of the blood stream from the lungs or by direct extension from the peritoneum Both forms show a similar course and healing process Hæmatogenous infection is the more common In old cases with adhesions the route of the infection can no longer be demonstrated

The ampulla is affected first From there the process extends toward the uterus At the isthmus the progress of the condition is checked on account of the contractility of the uterine cornu Because of this fact and the peculiar course of the lymph vessels (converging from the uterine cornu to the tubal isthmus and entering the tubal lumen) the infection at the isthmus attacks first not the mucosa as in other parts of the tube but the wall of the isthmus behind the inner circular muscle layer and from there the foci which at first are nodular spread both toward the peritoneum and into the tubal lumen

In the reaction to the tuberculous infection the muscular and especially the connective tissue elements of the tube undergo a nodular thickening This thickening and the outgrowth of dystopic epithelial processes from the mucosa toward the nodules are to be regarded as defensive processes They surround and isolate the tuberculous foci and by breaking them up and infiltrating them lead to their cure These epithelial processes are responsible for the picture of salpingitis nodosa the end stage of healing of th tuberculous foci with connective change Frequently the tube shows confluent foci of caseous destruction between which dystrophic epithelial processes are seen The typical picture of salpingitis nodosa is therefore due to tuberculous involvement of the wall of the isthmus with consequent muscular but chiefly connective tissue thickening and defensive infiltration of the dystopic epithelial processes from the tubal mucosa into the wall which as a rule leads to connective tissue healing of the specific lesions

Descending tuberculosis may be checked nearer the uterus in which case there is fibro adenoma formation nearer the uterus with more marked proliferation of the uterine mucosa There are several varieties of this form When the tubal mucosa becomes necrotic early the epithelial processes may be absent Sometimes the fibrous thickening or fibro adenomatous hyperplasia predominates over the dystopic proliferation When the mucosa of the isthmus undergoes tuberculous destruction it may be replaced in the healing process by uterine mucosa which may then form dystopic processes in the tube If tubal pregnancy occurs under such circumstances this tissue reacts like decidual tissue because it contains cytogenic tissue

Non tuberculous inflammation also may lead to the development of salpingitis nodosa but according to the author's material this is rare Also in other parts of the tube the epithelial cells of the mucosa play an important rôle in the healing of tuberculous infection Tuberculous endosalpingitis may have an adenomatous appearance or involve the mucosa diffusely When the disease is present for some time there is formed at the base of the folds a labyrinthine fold lined with epithelium which surrounds the diseased mucosa and breaks up large foci

Vegetative tuberculous salpingitis is a manifestation of a marked labyrinthine proliferation which the author calls a spongy fold labyrinth The tuberculous areas isolated by this epithelial tissue suffer a decrease in their nutrition and undergo regressive and connective tissue changes which result in the posttuberculous picture of stellate labyrinthine

fold progressing toward a connective tissue center In the center there are healing nodules areas with cholesterin connective tissue healing caseous foci lymphocyte infiltrations calcium incrustations and degenerating tuberculous foci The connective tissue center is later restored to a fold labyrinth by the proliferation of epithelial processes Especially in the ampulla peculiar formations often result from cystic distortion of the processes Hydrosalpinx develops from thinning of the intervening wall and from adhesion of the ampulla due to the serous contents of the tuberculous tubes Under such conditions the fold labyrinth may proliferate and later may again become compressed by the fluid contents and undergo regressive changes ending in its destruction

Sometimes the proliferation of the spongy labyrinth leads to adenopapillary and malignant new growths In the ampulla the marked connective tissue formation of tuberculosis often results in the picture of pseudofollicularis cystica

The signs of healed tuberculosis of the tubes include besides calcium and cholesterin the presence of fatty tissue which the author calls substitution fat In caseous destruction of the tubal mucosa especially in the ampulla there is cholesterin formation the tuberculous origin of which is evidenced by granulations The granulations are changed to hyalin connective tissue which surrounds the cholesterin like caseous foci At this stage of healing the tuberculous area resembles a dermoid Hence the author calls it a pseudodermoid Such areas are sometimes partially surrounded by a defense labyrinth and often by calcium incrustations in the form of a wall The cystic dilatation of the defense labyrinth compresses the hyalin-encapsulated pseudodermoid lying in the center of the tube and the latter is changed into a hyalin connective tissue center of the stellate labyrinth The latter may again be permeated by the epithelial processes with the resulting formation of a cystic labyrinth or pseudofollicular structure with a large amount of connective tissue between the epithelial processes Finally larger pseudodermoids may acquire serous contents as the result of a loss of cholesterin and become cystic a change which is especially apt to occur in caseous foci in the ovary The tuberculous nodules may also become surrounded by a ring of lymphocytes and changed entirely into a collection of lymphocytes

Another sign of regeneration is the formation of calcium deposits in the giant cells of the nodules These result from the changing of fat derivatives formed in the caseous masses during the healing process into calcium soaps Calcium deposits incrustations and foci of lymphocytic infiltration are evidence of a tuberculous process

The serosa of the tube in tuberculosis often shows a papillary proliferation and forms dystopic epithelial processes with metaplastic serosal epithelium of a cylindrical character which is often thickened and contains calcium deposits or lymphocytes

In the ovary there is small cyst degeneration due to adhesive inflammation or the effect of toxins There are also blood-containing lutein or follicular cysts but these may be found also in other types of inflammation Tuberculosis is indicated by the presence of caseous foci and in the healing period by pseudodermoids cysts with hyalin walls and hyalin bodies in the wall which are stained with blood pigment In posttuberculous changes dystopic inverting and papillary everting proliferation and numerous calcium deposits in the ovaries are striking GROSS (G)

Taylor H C Jr **Malignant and Semi Malignant Tumors of the Ovary** *Surg Gynec & Obst* 1929 xlviii 204

The author presents a clinical and histological review of 150 cases of tumors diagnosed as papillary cystadenoma primary carcinoma or sarcoma of the ovary

According to the theory most generally accepted today regarding the origin of primary epithelial tumors of the ovary a certain mixed group are of teratomatous origin and possibly include the pseudomucinous tumors whereas the common serous cyst and its hyperplastic and malignant varieties arise from the germinal epithelium or abnormally placed endometrial tissue

Taylor gives the findings of a study of these types of ovarian tumors in their various stages of hyperplasia and malignancy describes their histological characteristics and reports the end results of each group

With regard to the histological criteria of malignancy it was found that in ovarian tumors loss of differentiation does not carry with it so unfavorable a prognosis as the presence of marked nuclear irregularity even though the latter occurs in tumors with a structure showing moderate functional differentiation Therefore the results in cases of tumors with completely undifferentiated cells were slightly better than those in cases of tumors with partially differentiated cells but marked nuclear irregularity

The operative mortality depends chiefly on the selection of the cases In the cases of true carcinoma which are reviewed by the authors the mortality was 11 8 per cent and in those of semi malignant papillary tumors 2 2 per cent

The incidence of late cures reported depends partly upon the pathologist's conception of where to draw the line of malignancy If patients with positively malignant tumors who have survived three years are included the incidence of cure in the cases reviewed was 8 5 per cent whereas if those with actively growing papillary cystadenomata are included the percentage becomes 21 1 The untraced patients are counted as being dead

The prognosis is dependent upon the histology only in the unusual type that may cause peritoneal implantations and regress after complete hysterectomy This variety may be in the nature of a hyperplasia of a peritoneal endometriosis

The prognosis depends almost directly upon the extension of the growth for when there is a cancer beyond the ovaries uterus or tubes the results are always poor except in the rare cases in which a cure is obtained with the aid of the X ray

The younger the patient the more benign the histological structure of the tumor is likely to be

Pathological conditions of the generative organs associated with these ovarian tumors include fibromyomata cystic degeneration of the uninvolved ovary and hyperplasia of the endometrium

Among the possible etiological factors in the development of ovarian carcinoma are the physiological decrease of function at the time of the menopause and in women who develop the disease early congenital underdevelopment In younger women with ovarian tumors fertility is decreased and menstruation is scantier than in normal women of the same age

The treatment of ovarian tumors should be complete hysterectomy with usually the removal of both ovaries and in cases of malignancy postoperative irradiation HARRY W FINK M D

MISCELLANEOUS

Hosoi K and Meeker L H Endometriosis
Arch Surg 1929 xviii 63

The authors report seven unusual cases of endometriosis In Case 1 endometriosis in an inguinal lymph node was associated with endometriosis of the groin and an endometrial carcinoma of the transverse colon In Case 2 endometriosis of the vermiform appendix was associated with endometriosis of the fallopian tube In Case 3 there was endometriosis of the fallopian tube In Case 3 there was endometriosis of the vermiform appendix but no other demonstrable pathological process in the pelvis In Case 4 endometriosis appeared in an appendectomy scar twenty six and a half years after the appendectomy In Case 5 endometriosis of the bladder was associated with endometriosis of the uterus and fallopian tube In Case 6 particles of endometrium were found lying free in the lumen of a normal fallopian tube but there was no other pathological process in the pelvis In Case 7 the presence of particles of endometrium in the lumen of a fallopian tube was associated with endometriosis of the ovary and tube and the posterior wall of the uterus

No one of the various theories advanced as to the pathogenesis of endometriosis will explain all of these cases MAGNUS P URNES M D

Kelly G L Fulghum C B Goodwin T W and Todd W A Jr Artificial Insemination by Way of the Ovarian Bursa in the Guinea Pig
Surg Gyn & Obst 1929 xlviii 200

Artificial insemination by way of the ovarian bursa was accomplished by the authors in experiments on guinea pigs in about two thirds of the attempts The young were normal at birth and thrived just as the progeny resulting from natural insemination

It was possible by this method to produce young born at the same time from one mother but from different fathers Whether these findings have any clinical significance is problematical If human sperm could be obtained in an aseptic condition and the exact time of ovulation in woman could be foretold it is probable that successful impregnation could be accomplished by this method in certain cases in which laparotomy is necessary for some other purpose The method opens up a field of investigation into the behavior of spermatozoa in relation to the ovum and the fallopian tube

HARRY W FINK M D

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Hofbauer J I *A Specialized Type of Muscle in the Human Pregnant Uterus Possibly Analogous to the Conductive System of the Heart Anatomical and Clinical Evidence* *J Am M Ass* 1929 xcii 40

Hofbauer calls attention to the development in the outer layer of the pregnant uterus of a specialized structure of muscle tissue with microscopic features in marked contrast to those of the rest of the uterine musculature and closely resembling the Purkinje system of the heart

A study of the histological structure of the wall of the pregnant uterus shows that beneath the peritoneal covering there is a thin superficial layer of relatively compact longitudinal fibers followed by a thicker layer of circular fibers spread apart by characteristically arranged connective tissue spaces containing many vessels Internal to this is a layer of muscles interlacing in both directions and internal to that is the bulk of the uterine muscle which consists of a dense felt like mass of fibers extending to the base of the decidua The development of the longitudinal bundles is most pronounced in the middle third of the anterior wall In the posterior wall the structure terminates half way between the fundus and the internal os On the posterior wall of the lower uterine segment there is a superficial band of longitudinally arranged fibers which spreads horizontally toward both sides

The specialized system in the outer portion of the pregnant uterus is visible to the naked eye as distinct longitudinal bands which are mainly parallel

When the author examined the outer layer of the uterus microscopically his attention was first drawn to this tissue by what appeared to be the presence of vacuoles Further study of the tissue showed it to consist of a characteristic structure conspicuously differentiated by the clear diaphanous character of its specific elements presenting a histological picture much like that of Purkinje fibers

Cross sections showed a network of cells of very special character The bulky cells are polyhedral and present an abundant protoplasm with a central zone enclosing the nuclei In some specimens the central zone is pale non staining and perfectly homogeneous while the cortical zone which may be very thin or may encroach considerably on the central zone appears darker because of its granular sarcoplasm In some of these cells there is a zone of condensation running transversely through the cytoplasm or a partition dividing the cytoplasm into a clear and a darker area

Other characteristics of the structure are a well developed connective tissue sheath with a few elastic fibers surrounding the individual bundles and within the fasciculi, ramifying bands of connective tissue which are abundantly supplied with delicate vessels and divide the bundle into several divisions

As the cells of the specialized layer are larger than those of ordinary uterine muscle fiber they may be easily seen permeating the muscle stratum beneath the vascular layer

When strips obtained from the subperitoneal layer of the pregnant uterus are suspended in Locke's solution they show strikingly more frequent and more vigorous contractions than strips taken from other parts of the organ Their response to small amounts of pituitary extract is also more pronounced Following incision of the uterine wall at cæsarean section the superficial layer retracts more vigorously than the rest of the muscle Following the intramuscular injection of pituitary extract at cæsarean section a pale band from 2 to 3 in wide composed of parallel fibers becomes visible over the anterior surface from the bladder reflexion to the fundus Its pattern suggests the tenia of the large intestine The wave of contraction spreads from this band and involves an ever increasing area of the organ Synchronous with the first appearance of the tenia in the midline there come into view an orbicular structure surrounding the insertion of the tubes and a pale zone in the midline of the posterior aspect of the lower uterine segment

In the author's opinion the system described may be designated as the pacemaker of the parturient uterus

This peculiar formation may be demonstrated after the fourth week of pregnancy and is well developed by the middle of pregnancy In the premenstrual period the muscle fibers of the outer layer show a definite swelling of their cytoplasm The evidence indicates that the muscle structure described develops from the subserous connective tissue DONALD G TOLLEFSON M D

Geist S H and Matus M R *The Relation of Ectopic Gestation to the Associated Uterine Changes and Vaginal Bleeding* *Am J Obst & Gynec* 1929 xvii 151

An analysis of thirty nine cases of ectopic gestation showed a striking lack of regularity between the symptoms and the findings Decidua was found in some cases with a long history of bleeding but not in others with a similar history and in some cases with viable villi and not in others The duration of the bleeding did not give a clue to the condition of the uterus

The presence or absence of a fetus did not necessarily determine the reaction of the uterine mucosa Chorionic villi some degenerated and some pre

served were found in many cases in which the mucosa varied from the typical decidua to the typical interval mucosa

These cases demonstrated that as has been emphasized by Sampson and Novak a decidual reaction in the uterus may be expected if there is no external bleeding

In the cases of tubal rupture decidua was encountered in the uterus three times as frequently as in cases of tubal abortion

In cases with a long history of spotting and even in some cases of profuse bleeding lasting for from fourteen to forty eight days a viable fetus was found although such bleeding is generally considered to be evidence of the death of the fetus

In some cases the bleeding associated with an ectopic pregnancy may be vaginal bleeding caused by the patient's efforts to induce abortion In others it may be of the same character as that which occurs occasionally especially in the early months in intra uterine pregnancy without interrupting the gestation Sometimes it may be caused by uterine and tubal contractions Spotting is a symptom of far less import than bleeding as an indication of ovular damage Of ten patients giving a history of spotting seven had decidua in the uterus one had no decidua and two expelled casts The spotting in these cases was probably caused by uterine contractions initiated by the efforts of the tube to expel its contents In some cases of ectopic pregnancy the bleeding may be that which accompanies or precedes the casting off of the decidua and is initiated by the death of chorionic tissue The casting off of the decidua may occur all at once or gradually E L Cornell M D

Greenhill J P and Bloom B Uterine Scars After Cervical Cæsarean Section *J Am M Ass* 1928 xcii 2

In a series of thirty seven cases in which a cervical cæsarean section had been done pieces of tissue were removed from the site of the incision at the time of a repeated cervical cæsarean section In five (13 5 per cent) *the scar was so thin as to suggest from the* anatomical point of view that the uterus could not stand a test of labor Actually however two of the five women had been in labor before the repeated operation was performed

In six cases (16 2 per cent) no scar tissue at all could be found These almost certainly represented perfect anatomical healing as the blocks of tissue were removed by experienced surgeons who knew *where to find* scar tissue if any had been present

In twenty six cases (70 3 per cent) the evidence of scarring was not sufficient to suggest even the likelihood of failure to withstand a test of labor

In the entire world literature there are reports of only twelve authentic cases of rupture of the uterus after cervical cæsarean section in which the incision was limited to the lower segment of the uterus Rupture of the fundus or in the fundal part of an incision begun in the lower uterine segment has been slightly more frequent All of the ruptures occurred in patients who had been in labor a long time and none of them occurred during pregnancy

It is generally believed that the wound heals best when interrupted sutures are used

Carl H Davis M D

Thoms H A Roentgenographic Study of Placental Infarcts *Am J Obst & Gynec* 1929 x ii, 1 6

From a study of fifty-eight placentæ prepared by the injection of barium sulphate the author concludes that marginal white infarct formation is so common that it may be considered a normal phenomenon in the mature placenta The circulatory disturbance at the edge of the placenta resulting from such infarcts is negligible The small white infarcts which are frequently seen scattered over the fetal surface are for the most part purely surface lesions they cause no changes in the subjacent circulation

In the cases from which the placentæ studied were obtained no definite relationship between infarct formation and the toxæmia of pregnancy was noted There were typical cases of toxæmia with no apparent circulatory disturbance and cases of infarct formation with evident circulatory arrest in which there was no sign or history of toxæmia In 17 per cent of the placentæ the degree of infarction was sufficient to interfere with the placental circulation F L Cornell M D

Reynolds F N Placenta Prævia and Its Resulting Fetal Mortality *Brit M J* 1929 i 387

The maternal mortality of placenta prævia is about 5 or 6 per cent In a series of 308 cases it was 5 5 per cent In the cases in this group in *which* spontaneous delivery occurred it was 6-4 per cent whereas in those in which vaginal plugging was done it was 1 9 per cent in those in which the De Ribes bag was used it was 7 9 per cent in those in which version and bringing down of a leg were done it was 6 0 per cent and in those in which cæsarean section was performed it was 5 5 per cent It was therefore lowest in the cases in which vaginal plug*ging was done but this method is sufficient* in only the milder cases of the lateral type especially those in which hæmorrhage is controlled with the onset of labor The mortality was next lowest in cases in which cæsarean section was performed the method used in cases of the central type

The outlook for the child is uniformly unfavorable Many of the infants are stillborn and many die *shortly after birth The causes of the infant mor*tality are asphyxia from placental separation hæmorrhage from laceration of the placenta pressure on the cord and prematurity In the 308 cases reviewed the total infant mortality was 59 per cent In cases of spontaneous delivery in this series it was 43 5 per cent whereas in those in which vaginal plugging was done it was 58 5 per cent in those in which the De Ribes bag was used it was 57 0 per cent in those in which version and bringing down of a leg were done it was 78 0 per cent and in those in

which cæsarean section was performed it was 42 6 per cent

It therefore appears from this large series of cases that in the most common type of placenta prævia treated by modern methods the maternal mortality is 6 per cent and the fetal mortality 78 per cent

The author draws the following conclusion

1 The fetal mortality in placenta prævia is worthy of serious consideration

2 More frequent use of cæsarean section can reduce this mortality without increasing the risk to the mother

3 This method has never been tried in a sufficient number of suitably selected cases for a correct estimate of its value

4 The usual objections to the method can be largely discounted when the operation is performed by modern technique and under suitable conditions

ROLAND S CRON M D

LABOR AND ITS COMPLICATIONS

Schubert von The Value and the Best Method of Roentgenological Measurement of the Pelvis (Über den Wert und die beste Methode der röntgenologischen Beckenmessung) *Ztschr f Geburtsh u Gynäkol* 1928 xcii 658

Of the older methods of measuring the pelvis with the roentgen rays those based on the stereometric procedure (estimation of the measurements from the differences in two exposures) do not give correct results as it is impossible to make the pelvic inlet assume a parallel position with the plate with the aid of externally approachable bony points of measurement the end points of the true conjugate are projected into the bony shadow and cannot be identified upon the plates and it is impossible in the living to determine the point which lies exactly above the center of the sagittal diameter of the pelvic inlet Moreover the stereo procedures are inconvenient and time consuming and subject the patient to unnecessary radiation

In procedures with only a single exposure the attempt is made to correct the unavoidable enlargement in the roentgenogram mathematically In such procedures the surface area of the plate to be examined must be absolutely parallel If the plane of the pelvic inlet which contains the true conjugate cannot in itself be made parallel with the plate the error in the measurement will be still further increased because the external conjugate and the true conjugate do not lie entirely in one plane and angles of from 25 to 32 degrees between the two conjugates are relatively common especially in pathological pelves The angle between the true conjugate and the plate and the projection of the end points of the true conjugate into the bony shadow result in errors which together may suggest a shortening of the true conjugate of from 2 to 2 5 cm Moreover measurement of the plane of the pelvic inlet in square centimeters is impossible because the terminal plane lies not at the level of the promontory but below it and one can speak only of an entrance space of the pelvis (Sellheim) the outlines of which are complicated by curves The author shows the appearance of this pelvic inlet figure in the plate by roentgenograms of two ligamentous pelves in which small lead balls were placed at different points These roentgenograms show that such a projection of the pelvic inlet figure on the plate is of no value in roentgenological measurement of the pelvis on the plate

On the other hand very exact measurements can be obtained when the sagittal plane of the body is brought parallel with the plate and transverse exposures of the pelvis are made as has been done by Thoms and Guthmann By this method the size and position of the fetal head can be determined

The author has improved the method of transverse exposure by making the exposures with the patient in the dorsal position the rays passing through from one side to the other In this way the soft parts are compressed laterally The advantages of this procedure are summarized as follows

1 The path of the roentgen rays is shortened and fewer secondary rays are produced

2 The patient is definitely fixed so that exposures can be made even during labor pains and anæsthesia

3 The endangered skin is pushed away from the focus and rendered anæmic, so that burns are not to be feared

4 The compressorium makes it possible to estimate the distance from the focus to the symphysis without measuring as a certain position of the strongly compressed lateral wall of the body corresponds to a certain position of the sagittal plane

It is estimated how large a centimeter lying in the objective plane will appear on the plate and this measurement is indicated on the cassette and photographed simultaneously

The filter used consists of 1 mm of aluminum and 4 mm of wood The duration of the exposure is from fifteen to twenty seconds The effect on the tube is 88 kv and the load 20 ma When balls with a diameter of 12 5 cm are used the ball spark gap is 46 mm The distance between the focus and skin is about 35 cm Therefore in fifteen seconds 37 R fall upon the skin and about 7 R upon the ovary

Because of the possibility of repeated exposures an insight into the physiology and pathology of labor can be gained and the spatial relationships between the pelvis and fetal head can be presented to the student in a simple way KABOTH (G)

Reis R A A Comparative Study Based on 500 Consecutive Cases of Induction of Labor *Am J Obst & Gynec* 1929 xvii 392

The author reviews 500 consecutive inductions of labor in the cases of 430 women past the thirty eighth week of pregnancy In 338 cases the induction was successful Twenty six women had 2 inductions and 16 had from 3 to 5

Six methods were tested Pituitrin alone was successful in 26 per cent castor oil in 53 per cent castor oil quinine and pituitrin in 73 per cent and bag insertions in 95 per cent Stripping of the membranes markedly increased the incidence of successful results After the membranes were stripped pituitrin was successful in 36 per cent castor oil in 77 per cent and castor oil with quinine and pituitrin in 94 per cent Stripping of the membranes does not hasten the onset nor shorten the duration of labor Primiparæ responded to the induction as well as multiparæ

The medical induction of labor raises the gross and the corrected morbidity from 8 6 and 5 1 per cent to 10 5 and 5 8 per cent respectively When stripping is added the gross and corrected morbidity increases to 11 6 and 6 4 per cent respectively The gross and corrected morbidity following bag inductions in the cases reviewed was 33 3 and 27 7 per cent respectively There is no effect on the fetal mortality or morbidity The most effective method of medical induction of labor at or near term is the use of castor oil quinine and pituitrin

In the discussion DANFORTH *said that in some* cases the doses of quinine are far larger than those given in the cases reviewed He himself does not use over 10 gr He gives 2 doses of 5 gr each separated by an interval of an hour He believes that multiparæ respond slightly better than primiparæ

HOLMES stated that for many years he has been convinced that bag induction is a mistake as is also the use of the catheter for the induction of labor in the cases of women with minor pelvic deformities since if there should be an error of judgment and if after labor has supervened there is still a cephalopelvic disproportion cæsarean section could not be performed Holmes has frequently used the blind catheter for the induction with successful results

REED agreed with Reis regarding the equal responsiveness of multiparæ and primiparæ He believes that castor oil and quinine will succeed in about 60 per cent of the cases and that the bag is the most reliable mechanical agent He stated that *in stripping the cervix the finger cannot be introduced* without carrying contamination from the vaginal walls into the cervix

CULBERTSON said that in his experience the administration of castor oil and quinine has been so satisfactory that he always tries it first and resorts to one of the other methods only when it fails

STEIN stated that when the cervix is not effaced the induction of labor by the ordinary bag produces cramp like pains which do not dilate the cervix However the patient sometimes goes into labor from eighteen to twenty four hours later without the use of any additional method

GREENHILL suggested that some of the severe cramp pains and fetal deaths in cases of induced labor may be attributed to the histamin in certain specimens of quinine E L CORNELL, M D

PUERPERIUM AND ITS COMPLICATIONS

Harris J W and Brown J H A Clinical and Bacteriological Study of 113 Cases of Streptococcic Puerperal Infection *Bull Johns Hopkins Hosp* Balt 1929 xliv 1

From June 9 1926 to August 29 1927 uterine cultures from 168 patients with intrapartum infection postpartal fever or incomplete abortion were studied in the obstetrical service of the Johns Hopkins Hospital Sixteen specimens were sterile 39 contained organisms other than streptococci and 113 contained streptococci in pure culture (19 times) or associated with other organisms (94 times) These 113 cases yielded 116 strains of streptococci Aerobic and anaerobic varieties were approximately equal in frequency Two cultures were from cases of intrapartum infection 11 from cases of incomplete abortion and 100 from cases with the clinical picture of puerperal infection

In 7 of the 11 cases of incomplete abortion the streptococci were of the aerobic beta hæmolytic variety in 2 they were aerobic and non hæmolytic and *in 2 they were anaerobic One anaerobic strain was* of the beta hæmolytic variety This culture was from the only patient in the series whose infection resulted fatally death was due to general peritonitis

Of the other patients 28 were delivered by various operative measures There were 2 deaths both those of women who were infected prior to their admission to the hospital Neither death could be ascribed to puerperal infection One patient died three hours after delivery from hæmorrhage and shock due to placenta prævia and the other (an eclamptic) died two days after delivery from pneumonia Seventy four women were delivered spontaneously In the cases of 42 of these vaginal examinations were made during labor the membranes ruptured prematurely or the perineum was lacerated *In 6 of the series of* 42 aerobic beta hæmolytic streptococci were found but in the uncontaminated series of 25 this strain was discovered only once a fact seeming to indicate that the organism is generally exogenous This assumption was substantiated by the findings in another series of 30 afebrile women studied on the *fifth day after delivery in 24* of whom streptococci were found but in none of whom was the organism of the aerobic beta hæmolytic variety which is generally conceded to be associated with the more serious types of puerperal infection

It was noted that puerperal infection occurred 3 times more frequently in colored women than in white women and that infection with the gamma non hæmolytic streptococcus (which is probably endogenous) was found 5 times more often in the colored women than in the white women These differences may have been due to the less cleanly habits the unhygienic environment and the poorer physique of the colored women

It appears from these cases that the streptococci *found* in puerperal infection are rarely of fæcal origin E L KING M D

Prather G C Postpartum Bladder Complications *Am J Obst & Gynec* 1929 xvii 215

This article is based on fifty eight cases of postpartum bladder complications which were treated for two or more days on the urological service of the Boston Lying In Hospital during the years 1925 1926 and 1927 Eighty seven and six tenths per cent of the patients were primiparæ In thirty nine cases (67 24 per cent of the total number) there was acute retention In the nineteen cases without acute retention (32 76 per cent of the total number) there was residual bladder urine varying from 3 to 66 oz The average amount of residual urine was 28 oz

The author states that postpartum bladder complications are sometimes overlooked Unexplained postpartum fever may be due to residual urine Bladder complications may follow any type of delivery Injury to the bladder wall at delivery increased bladder capacity and temporary disturbance of the function of nerves to the bladder are believed to be responsible

The treatment advised for acute retention is intermittent drainage followed after forty eight hours by constant drainage if at the end of that time the residual urine is still more than 1½ oz or there is a fever which cannot otherwise be explained

The treatment advised for non acute retention with residual urine is immediate constant drainage Cystitis in such cases is due to residual urine or to injury of the bladder mucosa from overdistention or trauma rather than to catheterization

In conclusion the author states that acute retention and residual urine in the bladder predispose to postpartum pyelitis E L Cornell, M D

NEWBORN

Ehrenfest H Intracranial Birth Injuries *J Am M Ass* 1929 xcii 97

Schroeder P L Behavior Difficulties in Children Associated with Birth Trauma *J Am M Ass* 1929 xcii 100

Ehrenfest calls attention to the fact that many clinically normal newborn infants exhibit varying transient manifestations of mild birth injury He believes it therefore logical to conclude that there is a physiological intracranial birth trauma generally a sort of contusion or concussion of the brain More severe injuries cause immediate death or may be manifested by the familiar symptoms of intracranial hæmorrhage with later sequelæ if resorption and restitution are not complete

The chief phases of labor causing these injuries are moulding and alterations in the intracranial blood distribution The former acts by distorting the venous sinuses by compressing the skull in one direction elongating it in another and causing strain and sometimes tears of the dural folds especially the free edge of the tentorium The alteration in the blood distribution is due to some extent to the compression but chiefly to the suction effect produced by the lowered pressure on the presenting part of the head after full dilatation of the cervix and rupture of the membranes as compared with the increased pressure in other parts of the fetal cranium during uterine contractions Contributory factors are the increased friability of the vessel walls and dura in premature infants and the delayed blood coagulation time which is common in the newborn

The prophylactic measures are obvious Especially if the baby is premature a labor which is progressing normally should not be hastened or shortened Episiotomy is often of value Retardation of the fetal heart beat generally due to increased compression of the head often yields to the administration of ether or chloroform Forceps should be applied in such a manner that they will not increase the intracranial tension Undue haste in extraction is to be avoided especially in delivery of the after coming head in breech presentations As from 70 to 80 per cent of newborn infants who are born dead or who die soon after birth seemingly as the result of asphyxiation succumb to intracranial lesions the seemingly asphyxiated baby should be considered to be suffering from intracranial trauma and vigorous resuscitative measures especially the method of Schultze should be avoided The subcutaneous administration of 20 c cm of the father s or mother s blood will often increase the coagulability of the fetal blood and check the intracranial bleeding

Schroeder states that of a total of 5 000 children examined at the Illinois Institute for Juvenile Research 146 had infantile cerebral palsy and 79 others had shown signs of cerebral injury at birth Of the first group 34 per cent had no behavior difficulties other than retardation whereas of the second group only 5 per cent were free from behavior difficulties Also in the group with palsy the incidence of personality difficulties was much lower Muteness was twice as common in the group with palsy as in the others and fæcal incontinence and epilepsy were also more common in this group

The author concludes that the behavior problems in children born after difficult labor are chiefly the result of mental retardation that the characteristic personality traits are distractibility and hyperactivity and that the behavior differences between the two groups are explained chiefly by the absence of an orthopedic handicap in the group with cerebral injury E L King M D

Paddock R Intracranial Injury Due to Labor A Clinical and Pathological Study *South M J* 1929 xxii 130

The author reviews the autopsy findings in 46 cases of intracranial injury due to labor The pregnancies were of at least twenty-eight weeks duration

The 16 infants which were born prematurely and weighed only 2 400 gm or less were delivered spontaneously In such infants the delicate cranial structures cannot withstand the stress and strain due to the resistance of the birth canal

In the cases of postmature infants the head is usually larger the sutures are smaller the bones are

more ossified and overriding is less than in infants born at term Accordingly there is extreme moulding and intracranial injury may result from the accommodation of the head to the pelvis In the series reviewed there were 6 infants of this type

When labor is prolonged and the pelvis contracted artificial termination of labor is necessary In 2 of the cases reviewed fatal hæmorrhage in the cranial cavity was caused by traction with the forceps

Difficulty in descent or rotation due to abnormal presentation may require intervention Traction or rotation by forceps resulted fatally in 9 of the cases reviewed

In 13 cases the hæmorrhage was associated with breech presentation The direct causes were rapid extraction with sudden moulding of the head

The forces in labor are such that injury to the tentorium and falx are possible in even the spontaneous delivery of infants at term In cases of contracted pelvis and malpresentation the traction exerted in instrumental delivery further increases the natural stress and strain The incidence of intracranial injuries caused by prolonged pressure against the resistant perineum of the primipara will be greatly reduced by the prophylactic use of perineal forceps and the performance of episiotomy when the head distends the vulvar orifice to 5 cm In cases of breech presentation the incidence of injury and death will be lessened by slow delivery according to the technique of Potter

DONALD G TOLLEFSON M D

Collins F G and Campbell H Pemphigus Neonatorum *Lancet* 1929 ccxvi 227

The authors review fifty cases of pemphigus neonatorum with a mortality of 10 per cent The mild type of the condition is characterized by blister *formation with apparently no general symptoms* The severe type resembles a wide spread exfoliative dermatitis accompanied by toxæmia emaciation high fever and prostration and is usually fatal

In most of the cases reviewed the typical blister appeared from six to ten days after birth but in eleven cases it occurred earlier and in nine later In thirty seven cases it appeared first in the groin umbilical region or legs In all except one of the cases in which a bacteriological examination was made the staphylococcus aureus was found in pure culture

The condition developed in an institution in only one case Forty six of the mothers lived in very poor and overcrowded districts Forty five were delivered by midwives One of the midwives was the attendant in fifteen of the cases and another was the attendant in nine The disease is apparently spread by the attendant The midwife who attended fifteen of the mothers had four cases develop in the period of three weeks When she left on a vacation for five weeks no further cases developed in her district but when she resumed her work six cases developed in two weeks She was examined for possible foci of infection but the findings were negative

The prevention of the condition depends on the strictest isolation of suspicious or proved cases and careful disinfection of attendants and equipment Doctors and other attendants with septic foci should not be allowed to deliver or care for infants or mothers The spread of the condition may be prevented by daily baths with an antiseptic such as potassium permanganate The infants should be examined daily for blisters and when the lesions are found they should be ruptured and sterilized early Greasy dressings should be avoided Dryness and asepsis are both preventive and curative

DONALD G TOLLEFSON M D

De Vel L and Bolin Z A Traumatic Necrosis of the Subcutaneous Fat of the Newborn Infant *Am J Dis Child* 1929 xxxvii 112

Traumatic necrosis of the subcutaneous fat of the newborn infant has been incorrectly termed sclerema or scleroderma of the newborn but is a distinct clinical entity It is generally found in large babies delivered after long hard labors and babies born of elderly primiparæ It has been noted also after vigorous efforts at resuscitation The lesions appear after from seven to ten days and are generally multiple They are found in areas especially exposed to obstetrical trauma such as the cheeks neck back shoulders arms buttocks and thighs and vary in size from that of a pea to that of the palm of the hand There is little or no elevation The involved area may be normal in color or show a reddish or purplish tinge Its chief characteristic is a woody induration The overlying skin is roughened resembling orange peel There is no pain The general health is unaffected unless other and more serious conditions are associated The lesions heal spontaneously Treatment is not necessary Two cases of *calcification of the involved area* have been reported by Harrison

Microscopically there is infiltration of the fat with large cellular elements and the formation of elongated pointed crystals probably a mixture of cholesterol esters and fatty acid crystals Foreign body giant cells and macrophages are found

The authors review thirty two cases from the literature and report a case with lesions chiefly on the left side of the neck E L KING M D

Fahlbusch O The Increase in Infant Mortality During and After Delivery (Zunahme der Kinderverluste intra und post partum) *Zentralbl f Gynaek* 1928 lii 1701

This article is based on a statistical review of infant mortality during the first few days of life and the incidence of stillbirths in Prussia It is to be regarded as a reply to Schlossmann who ascribes the increase in infant mortality since the war to poor care during pregnancy labor and the puerperium and to overcome it has urged improvement in the care of infants on the part of midwives

According to Fahlbusch the increase in infant mortality during the first five days of life is not due

to faulty care of the newborn but to intra uterine disease injuries sustained during labor and premature birth This conclusion is based on a review of 155 infants which died during the first five days of life at the Midwife Institute in Celle during the period from 1917 to 1926 The prematurely born infants which constituted 50 per cent of the total number died of weakness or birth injuries and the others of the effects of injuries sustained before or during delivery The theory that the increased mortality of infants during the first few days of life is compensated for by the decrease in the incidence of stillbirths resulting from operative intervention before labor is not supported by Prussian statistics as the number of stillbirths parallels the increase in the infant mortality during the first few days of life

There is a marked difference in the frequency of stillbirths in cities and rural districts and especially in agricultural and industrial centers In East Prussia the frequency of stillbirths has been 3 per cent, whereas in the Rhine district it was 2 6 per cent in 1910 and 3 3 per cent in 1925 The same difference is to be noted in the increase in the mortality during the first four days of life This difference is not explained by the fact that as a result of the improvement in transportation facilities case of complicated delivery are more frequently sent to city hospitals Whether or not some of the increase in infant mortality and stillbirths is due to the obstetrician s conduct of labor (too frequent operative interference too frequent use of ecbolics and sedatives) it is difficult to say as in the cases of unmarried mothers who very frequently go to institutions for delivery even long before term the incidence of stillbirths has increased from 4 4 to 5 6 per cent and the infant mortality has increased from 3 2 to 4 7 per cent

In the author s opinion the increase in infant mortality and the incidence of stillbirths is due to constitutional inferiority acquired by the present generation of mothers during the age of puberty at the time of the war and during the postwar period and made worse in industrial centers where hygienic conditions are poor The more unfavorable the economic status of the mothers the higher the incidence of stillbirths and the infant mortality It is therefore necessary to improve the working conditions of women by eliminating all factors which will exert an unfavorable influence upon the genital organs

SIEGERT (G)

GENITO-URINARY SURGERY

ADRENAL KIDNEY AND URETER

Harris A A Review of the Literature on Perirenal Tumors *J Urol* 1929 xxi 181

Following a review of the literature on perirenal tumors Harris reports a case The patient was a man of fifty nine years of age who complained of dull pain in the left flank weakness and loss of weight Examination revealed a large hard and somewhat tender mass in the left side of the abdomen The left pyelogram was somewhat distorted suggesting a tumor of the lower pole of the kidney or an extrarenal mass pushing the kidney upward

After preliminary deep X ray treatments which seemed definitely to decrease the size of the tumor the neoplasm was successfully removed The patient was convalescing well when he died suddenly on the eleventh day from what was apparently a cerebral embolism The tumor which was the size of a grape fruit was found to be a fibro angioma

The majority of perirenal tumors are sarcomata As a rule patients with such tumors do not complain of pain or loss of weight until the neoplasm has reached a size sufficient to cause pressure Pyelography and roentgenography of the abdomen are the chief aids in the diagnosis

True retroperitoneal masses are contained between the anterior and posterior layers of Gerota s fascia the anterior layer of which is behind the colon the mesentery and the mesenteric vessels As these tumors may involve the mesentery or colon resection of the intestine may be necessary because of interference with the intestinal blood supply Therefore an abdominal approach to the tumor is advisable especially when the neoplasm is large

HENRY L SANFORD M D

Lee Brown R K and Laidley J W S Some Observations on the Microscopical Anatomy of the Kidney *J Urol* 1929 xxi 259

The authors describe the technique of the preparation of their specimens with particular reference to the staining the appearance of the normal and the nephritic kidney and the effect of increased pelvic pressure on the angle of deviation

They state that according to the findings of experimental investigation pyelovenous backflow arises at or near the apices of the minor calyces and is produced by minute pelvic ruptures rather than by lesions in the renal tubular system As it has been impossible to clarify this problem satisfactorily without tedious serial sections of whole kidneys the authors determined to carry out an investigation of the renal connective tissue

After many failures with Mallory s technique for a triple stain for connective tissue the authors were able to devise a modification of this method which gave very satisfactory results and made it possible to draw upon the resources of a museum for specimens since it was far more successful with formalin fixed material than Mallory s method

The specimen was fixed in any reliable fixative preferably Zenker s solution placed in 1 per cent phosphomolybdic acid for thirty seconds washed in distilled water for one or two minutes placed in Mallory s stain for from one to five minutes washed in distilled water for one or two minutes placed in a 0 1 to 0 5 per cent aqueous solution of acid fuschin for thirty seconds washed well in distilled water for from two to five minutes placed in phosphomolybdic acid for thirty seconds washed in distilled water for one or two minutes and then dehydrated cleared and mounted in balsam

The brilliancy of the stain was found to be greatly increased if old formalin fixed tissues were refixed in Zenker s solution before they were stained

In the normal kidney the renal capsule is a thick layer of fibrous tissue investing the parenchyma Only occasionally were the authors able to demonstrate a fiber of plain muscle tissue within it It has very little connection with the underlying cortex Except at the points of passage of the perforating vessels the connection between the capsule and the parenchyma is established only by the most slender fibrils At the hilum the capsule becomes intimately blended with the adventitia of the renal vessels

The connective tissue of the renal cortex of the normal kidney is extremely inconspicuous but surrounds every element—glomerulus convoluted tubule and capillary—by a fine sheath of remarkably uniform thickness that of one fibril Occasionally however there may be a delicate fenestrated sheath around the cortical unit Adjacent cortical elements are connected by fine offshoots which give solidarity to the organ

In the medulla of the normal kidney there is far more connective tissue than in the cortex Toward the pyramid the investing sheaths become thicker and stronger the greatest development being reached at the apex of the pyramid The average straight vessel is considerably larger than the thin walled capillaries of the efferent glomerular plexus hence the need for great support for their walls This addition increases the disproportion between the connective tissue content of the cortex and that of the medulla The strong connective tissue layer becomes insensibly continuous with the submucosal fibrous tissue and is continued up the sides of the pyramid toward the apex of the minor calyx where it becomes much thinner and is elastic

With regard to the minor calyx the authors state that embryonically the kidney consists of three dis

tinct elements the cortex proper the ureteropelvic element (which goes to form also the collecting part of the duct system) and the vascular system Up to a certain point of renal development each of these divisions maintains its own connective tissue elements

In studies of the human kidney affected with chronic nephritis no new facts relative to the capsule cortex and medulla were determined With regard to the disposition of the abnormal quantities of connective tissue it was found that while in the normal kidney the submucosal layer of fibrous tissue becomes more and more slender as it passes toward the angle of deviation from the apex of the pyramid in chronic nephritis it becomes greatly thickened and the angle of deviation becomes more obtuse It was found also that whereas in the normal kidney the submucosal fibrous tissue leaves the vascular fibrous tissue at a sharp and definite angle in the kidney with chronic nephritis it is difficult to determine which is the more direct continuation In chronic nephritis the submucosal fibrous tissue is not only much thicker than normal but bounds a parenchyma which is in itself far more fibrous than normal Moreover the angle of deviation is more obtuse than normal and is so filled with fibrous tissue that it becomes a rounded shallow bay and the pyramid is far shorter and less prominent than normal Chronic nephritis is patchy

In the human kidney with early or moderately advanced chronic nephritis pyelovenous backflow is very easily produced and the whole vascular system may be flooded with pelvic contents at a pressure as low as 30 cm Hg Tubular injection under any pressure in the kidneys is very slight In the kidneys of rabbits extensive pyelovenous backflow has been observed when there was no tubular injection at all In human kidneys with advanced chronic nephritis and in pig kidneys pyelovenous backflow is extremely difficult to produce although in these two types of kidneys tubular injection is at its maximum and the collecting tubules may consistently be injected as far as the lower set of convoluted tubules It appears therefore that the architecture of the angle of deviation has a profound influence upon pyelovenous backflow

In kidneys in which the division of fibrous tissue at the angle of deviation is unequal and the angle is acute pyelovenous backflow is readily produced whereas in those having a thick pelvic submucosa and a blunt angle pyelovenous backflow is difficult to produce It seems that intrapelvic pressure tends to split the submucosal fibrous tissue from the fibrous tissue at the angle of deviation and to tear open the slender submucosa in this region In kidneys in which pyelovenous backflow is easily produced the pyramids are long and pointed and the angle included by the two sides of the pyramid is always acute If the pelvic pressure is increased the tendency will be to compress the pyramid occlude the ducts of Bellini and stop the tubular injection In kidneys with advanced chronic nephritis the pyramid is blunt and rounded consequently the ducts of Bellini are open and tubular injection is aided

The authors conclude that this investigation gives an insight into the absence of extravasation in intraparenchymatous injections at low pressure suggests a reason for the absence of extravasation in pyelovenous backflow gives a mechanical theory for the production of pyelovenous backflow and may help toward a better understanding of the anatomy of the minor calyx

CLAUDE D HOLMES M D

Hennessey R A Congenital Solitary Kidney *J Urol* 1929 xvi 193

The author reports the case of a girl nineteen years of age who gave a five year history of low backache frequent painful urination hæmaturia chills and fever These symptoms had been somewhat alleviated by medical treatment but during the last week before the patient consulted the author they had been more severe Because of an imperforate hymen the patient had not yet menstruated at the age of fifteen years After opening of the hymen she had a slight flow at irregular intervals Two years later a pelvic abscess formed and ruptured into the bladder The abscess was opened and drained through a midline incision Six months later the uterus both tubes the right ovary and a part of the left ovary were removed

The author s examination revealed a mass in the pelvis below the promontory of the sacrum This was believed to be an ectopic kidney Except for distention and tympanites of the abdomen the other findings of the physical examination were negative X ray examination of the urinary tract failed to show any kidney outlines Cystoscopy revealed a deformed bladder which appeared to taper toward its apex The trigon was indistinct or absent and only one ureteral orifice could be seen This orifice admitted a catheter for a distance of from 10 to 12 cm In fifteen minutes the dye output was 15 per cent Although numerous subsequent examinations were made with the use of indo carmine no second ureteral orifice could be found

Urography showed a kidney resting in the hollow of the sacrum slightly to the left of the midline The irregular dilatation of the renal pelvis and the ureter warranted a diagnosis of chronic pyelonephritis in what appeared to be a solitary kidney Forced fluids and rest checked the hæmaturia and reduced the infection

After three weeks the patient returned to her home and made satisfactory improvement for about four months She then became acutely ill with nausea vomiting chills fever diarrhœa and abdominal distention The urinary output quickly became greatly reduced complete anuria finally developed and death occurred thirteen days later

At autopsy no kidney or suprarenal tissue could be found in the renal fossæ A pelvic kidney was discovered securely fixed by dense perirenal adhe

sions in the hollow of the sacrum The renal artery and vein communicated with the aorta and vena cava at their bifurcation *The weight of the kidney* was 260 gm The pathological diagnosis was pyonephrosis of a solitary ectopic kidney

Congenital solitary kidney is frequently confused with renal hypoplasia and fusion anomalies Two hundred and seventy three cases have been reported in the literature In all except 55 the condition was discovered at autopsy The greater number of the subjects were males The left kidney was absent more frequently than the right In the cases in which the ureter was present on the side on which *the kidney was absent it varied from* a short blind pouch to a ureter of normal length In 1 case the rudimentary ureter opened into the vas In 2 cases the ureter of the remaining kidney terminated in the midline of the bladder Eisendrath found 4 cases in which the normal ureter crossed the midline and opened into the bladder on the opposite side Failure of ascent or ectopic position of the solitary kidney was found in 24 of *the cases reported* Genital defects were present in 11 cases Many and varied surgical procedures have been performed on the solitary kidney and ureter There are records of 7 cases in which the solitary kidney was removed As abnormal urinary organs are especially susceptible to disease early recognition of the abnormality is of importance

The article is summarized as follows

1 Three hundred and seventy three cases of congenital absence of the kidney have been reported

2 *This anomaly is found in about 1 of 1 000* persons

3 The presence of 2 ureters does not prove the presence of 2 kidneys the presence of a ureter on the side of the urinary aplasia was found in about 10 per cent of the cases on record

4 The incidence of associated genital anomalies is high being about 33 per cent The presence of such anomalies should suggest the presence of urinary dysplasia CLAUDE D HOLMES M D

Souland A Costolow W E and Meland O N Radiation Treatment of Certain Kidney Disorders *California & West Med* 1929 xxx 93

During the past twenty years the authors have treated a considerable number of kidney lesions by roentgen irradiation with good results Several cases of postoperative tuberculous sinus were healed by this treatment after other local therapeutic measures had failed a number of tuberculous infections of the kidney were clinically cured and kidney complications due to mixed infection with or without *hæmorrhage* responded well

Relief of pain follows the irradiation especially when several exposures are made Spasm of the ureter even when *it is produced by mechanical* means also yields to roentgen treatment

While the authors are unable to report any five year cures from deep X ray irradiation *in cases of* inoperable carcinoma of the kidney this treatment resulted in marked improvement in a few cases for two or three years Carcinoma of the kidney reacts *less favorably to* irradiation than carcinoma in any other part of the body In renal cancer the irradiation is of value chiefly to check the hæmorrhage In some of the authors very advanced cases the hæmorrhage ceased for several months and on it recurrence was again checked by further irradiation

As a pre operative measure X ray irradiation has *been found of value to check hæmorrhage and* improve the general condition LOUIS GROSS M D

Marion The Mechanism of Hydronephrosis Due to an Abnormal Vessel (A propos du mécanisme de l hydronéphrose par vaisseau anormal) *J d urol méd et chir* 1928 xxvi 238

Marion believes that hydronephrosis caused by an abnormal vessel is of purely mechanical origin While he has found that an abnormal vessel at the lower pole of the kidney crossing the anterior portion *of the upper end of the urethra may alone pro*duce the condition he is of the opinion that in the great majority of cases a lowering of the position of the kidney is an important factor The change in the position of the kidney may be slight In quite a number of operations performed for renal conditions other than hydronephrosis Marion has found an abnormal vessel at the lower pole of the kidney like those which are resected in hydronephrosis due to an abnormal vessel He discovered such abnormal vessels also in the cases of two patients with calculi *in the renal pelvis who had never presented* the syndrome of hydronephrosis and showed no dilatation of the renal pelvis

Lowering of the kidney alone *does not cause* hydronephrosis Rouvière says that at the upper end of the ureter there is no modification of the nerve plexus surrounding the pelvis or ureter which would act differently if the kidney were lowered Therefore it does not seem probable that an abnormal vessel situated at the upper end of the ureter would have a reflex action on the pelvis when the normal vessels in contact with the plexus surrounding the pelvis do not have such an action

When collargol is injected into the ureter the bend *in the abnormal vessel can be clearly seen* The bend means a diminution in caliber The author presents arguments in support of his theory that the abnormal vessel acts in a pure*ly* mechanical manner *and not in* a neuromuscular way

Hydronephrosis due to an abnormal vessel demands resection of the vessel

In the discussion of Marion s paper VERLIAC described a specimen consisting of the upper urinary tract and the renal vessels of a fetus at term which presented bilateral hydronephrosis and on each side an abnormal artery of the inferior pole of the kidney The vessels were not adherent to the ureters. In this instance the physiological and *mechanical hypothesis* are both difficult to appl

PAGE.

Hundley J M Jr and Carson W J Pyelitis Follicularis *J Urol* 1929 xxi 341

Pyelitis follicularis has been reported in the literature comparatively seldom It is a lymphoid hyperplasia of the lymphoid follicles which according to most authorities are a normal constituent of the urinary tract The lymphoid hyperplasia is generally believed to be a response to the action of toxic irritants Some observers believe that it is a manifestation of an atypical tuberculosis

The authors report three cases One case that of a man aged forty five years who died from chronic diffuse nephritis was diagnosed at autopsy The two others were those of women thirty and forty years of age The chief symptoms in the latter cases were pain in the kidney and bladder region frequency dysuria and attacks of painless hæmaturia Cystoscopic examination showed a mild inflammation of the bladder On catheterization of the ureters no obstruction was met Intravenous phthalein tests showed a very low unilateral output Pyelograms suggested unilateral kidney disease It was thought that the findings pointed to unilateral tuberculosis although no tubercle bacilli were found in the kidney urine Nephrectomy was performed in each case

The pathological findings were essentially the same in the three cases The kidney showed evidence of chronic infection of long duration On section the pelvis calyces and upper end of the ureter were found studded with small grayish white translucent nodules which projected above the surface The nodules were similar in appearance to miliary tubercles Microscopic examination of the kidney revealed moderate scarring with localized and diffuse small round cell infiltrations The pelvis showed moderate swelling with erosion of transitional epithelium of the mucosa and an increase in the fibrosis and vascularity of the tunica propria There was a great increase of lymphoid cells which were uniform in shape and staining and were accumulated for the most part in the tunica propria and adjacent fibrous tissues There were many localized circumscribed nodules made up of these lymphocytes which were similar to intestinal lymphoid follicles In the case that came to autopsy the condition was bilateral and the lymphoid follicles were found also in the base of the bladder They were very pronounced and quite numerous Repeated and prolonged search revealed no evidence of tuberculosis

The authors present the following conclusions

1 Pyelitis follicularis with its lymphoid hyperplasia and associated vascularity may be the cause of one type of painless hæmaturia which heretofore has been described as idiopathic hæmaturia

2 The condition is usually associated with a chronic infection of long duration and should be treated by ureteral dilatation kidney lavage and removal of all foci of infection

3 Nephrotomy or nephrectomy should be thought of only when the hæmaturia does not cease under treatment and is so profuse as to endanger life It must be borne in mind that the condition may be bilateral and bleeding may occur from the other kidney at a later date

J Edwin Kirkpatrick M D

Wood A H Unilateral Renal Chyluria *J Urol* 1929 xxi 109

The author reports in detail a case of left renal chyluria The condition was first noticed when the patient was fifteen years old and at that time cleared up without treatment At the age of seventy it recurred

A search for evidence of parasites was negative and there was no eosinophilia In the differential phthalein test the output of the left kidney was greater than that of the right but this was explained by a right sided nephrosis

The pyelogram of the left kidney suggested a communication between the extrarenal pelvis and the juxta aortic lymph nodes In the light of the clinical picture this finding could be interpreted only as a lymphatic connection between the kidney and the central system of lymph vessels

John G Cheetham M D

Wildbolz H Renal Tuberculosis *J Urol* 1929 xxi 145

This article reports on 660 nephrectomies for caseocavernous renal tuberculosis with a mortality of from 2 2 to 2 5 per cent Sixty per cent of the patients were well from two to three years after the operation Of 270 who were operated on more than ten years ago 40 per cent are dead More than half of the deaths were due to tuberculosis in the remaining kidney pulmonary tuberculosis or miliary tuberculosis and about 15 per cent to an intercurrent disease Of the patients who are still alive only 3 had lesions of the bladder persisting over ten years

The author states that the presence of pus and tubercle bacilli in the urine does not necessarily mean caseous tuberculosis of the kidney In doubtful cases it is advisable to study the renal function for some time In caseous renal tuberculosis there is a marked and progressively increasing delay in the excretion of indigocarmine with a decrease in the amount excreted

Of more than 1 000 patients with caseous renal tuberculosis who were examined the condition was found to be bilateral in only 12 per cent

J Sydney Ritter M D

Jeck H S Renal Tuberculosis An Analysis of Operations During the Past Nine Years in the Bellevue Hospital Urological Service *J Am M Ass* 1929 xcii 300

Jeck reviews a series of sixty operations for renal tuberculosis In fifty six cases the diagnosis was confirmed by microscopic study of the kidney In 50 per cent of the patients who were examined for genital tuberculosis and 25 per cent of those examined for

pulmonary tuberculosis the findings were positive A large percentage gave evidence of both genital and pulmonary foci

The diagnosis of renal tuberculosis was based on (1) the identification of tubercle bacilli in the bladder or ureteral urine or both (2) cystoscopic examination (3) roentgen examination and (4) the history Pyelography was employed only *when the diagnosis* was doubtful

Jeck points out that it is futile to attempt to correlate the amount of kidney injury with the duration *of the symptoms of renal tuberculosis In the ma*jority of the cases reviewed the amount of kidney destruction was more or less directly proportional to the functional capacity of the kidney Ureteral in*volvement was present in forty cases but was equal* to the kidney involvement in less than half of these

In rare cases the function of the tuberculous kidney is better than that of the supposedly normal kidney

When tuberculous foci are found elsewhere than in the urinary tract it is sometimes of advantage to treat such lesions before doing the nephrectomy

Jeck advocates spinal anesthesia for nephrectomy in renal tuberculosis as it greatly simplifies the operation and prevents the occurrence of lung complications such as pneumonia and exacerbations of quiescent pulmonary foci GILBERT J THOMAS M D

Cifuentes The Recurrence of Renal Calculi (Sur la récidive des calculs du rein) *J d urol méd et ch r* 1928 xxvi 289

Following a review of the literature the author reports four cases of recurrent renal calculi He considers statistics of such recurrences of value only when they are based on cases under observation for at least six years Infection is an important factor in recurrence Retention with or without infection is also a cause Stagnation usually in the inferior calyx is another factor Phosphatic calculi recur most frequently As retention may be produced by postoperative folds resulting from displacement of the kidney a nephropexy should be done after pyelotomy or nephrotomy

The size of a calculus has no influence on its recurrence In a case of suspected recurrence the *diagnosis should be confirmed by roentgenography* In cases of infection in which nephrectomy is not performed kidney drainage will favor retraction of the dilated renal cavities and combat infection

When an infected calculous kidney must be treated by a conservative operation the preference should be given to nephrotomy even if the calculus is located in the renal pelvis The results of this operation are good also in cases of aseptic calculi When drainage of the pelvis is done by pyelotomy the almost certain result is a fistula especially if the drainage is continued for some time Such a result *does not follow nephrotomy* Moreover after nephrotomy it is easier to drain intrarenal cavities especially if the calculus is situated in the dilated inferior calyx.

As prophylaxis against recurrence the author recommends postoperative lavage of the pelvis by ureteral catheterization However the value of this procedure *is only relative and is nil if there is renal* retention The prophylactic effect may be attributed to the great permeability produced by the ureteral dilatation rather than to the lavage itself PACE

Hanlon F R A Rare Anomaly of the Ureter *J Urol* 1929 xxi 123

A discussion of the possible cause of a ureteral *anomaly involves a consideration of the embryology* of the ureteral portion of the urinary tract Felix asserts that in embryos between 4 5 and 5 3 mm long the ureteral bud first develops on the dorsal surface of the lower portion of the wolffian duct just before the latter enters the cloaca It first grows toward the vertebral column but later forms a curve which with advancing age becomes gradually flatter the ureter growing cranially The upper portion divides into many branches forming the pelvis calyces and collecting tubules of the adult kidney The mesonephrogenic cap forms the glomeruli and convoluted tubules Nicholson believes that the ureter is the more important factor in the development of the kidney and that it exerts a stimulating influence on the mesonephrogenic tissue

In the case reported by Hanlon it appeared that double ureters started to form bilaterally and that at some point in the course of development arrest and atrophy of the partial ureter occurred

In rare instances partial ureters have been found in cases in which the kidney was absent In a review of the literature Anders noted that in cases of single kidney the ureter was usually absent In 24 of 280 cases studied it was present to a greater or lesser degree Gruber states that all gradations exist in cases of partial ureter from a small intramural pouch in the bladder to the equivalent of a full sized ureter

There are 4 cases on record in which the ureter divided at the lower portion to enter the bladder by separate orifices Kapsammer reported a case in which there were 4 orifices in the bladder with union of the 2 ureters on the right side about 13 cm above the meatus and on the left side both ureters had separate pelves Braasch reported 2 cases and Chute 1 case in which the lower portion of the ureter was forked and there were 2 ureteral orifice on the affected side

Hinman F Obstructive Hydro Ureteral Angularity with Hydronephrosis in Children Surgical Treatment *Arch Surg* 1929 x iii 31

Hinman is of the opinion that the chronicity of pyuria in children is usually due primarily to an obstruction of the urinary tract

Of twelve patients with posterior urethral valves seen by him to date four died from uræmia and two have disappeared from observation In the six known to be alive the urethral valves were destroyed—in one by cystotomy and in five by fulguration through the urethra

The surgical method of attack in the treatment of obstructive hydro ureteral angularity is as follows

First stage Nephrostomy is performed and the upper part of the ureter is straightened and freed and then splinted with the nephrostomy tubes

Second stage The bladder and lower part of the ureter are exposed by a midline suprapubic incision and the lower part of the ureter is straightened and freed to the free portion above Enough of the lower part of the ureter is then resected to take up the slack and after opening of the bladder the ureter is implanted into an opening made by resection of the old ureterovesical orifice A large catheter is then placed well up the ureter as a splint and for drainage and lavage The neck of the bladder is thoroughly inspected and any bar or contracture that may be present is resected The bladder is then closed about a suprapubic drainage tube and the ureteral catheters THOMAS F FINEGAN M D

Read J S A Ureteral Stump (Non Tuberculous) as a Source of Pyuria Case Report *J Urol* 1929 xxi 103

The author reviews the literature on empyema of the ureteral stump after nephrectomy It is the consensus of opinion that intervention for pyo ureter after nephrectomy is rarely required Experimental and clinical investigations show that the condition is dependent upon fibrous contraction of the ureter or stone in the ureter with obstruction to free drainage into the bladder and infection

Read reports a case of intermittent pyuria in a woman thirty one years of age During a hysterectomy the left ureter had been severed A ureterovaginal fistula developed and three months later the cut end of the ureter was transplanted into the left upper quadrant of the bladder The fistula healed but the pyuria persisted and there was increasingly severe pain in the lower left quadrant of the abdomen and the lumbar region Eight months later a urologist at another hospital found the ureteral transplant functioning but discovered a small swelling to the left of the implanted ureter He interpreted the swelling as a tumor and implanted radium emanation seeds through the cystoscope Six weeks later the patient consulted the same urologist for increased severity of all symptoms an increase in the pyuria intense nausea and vomiting and an increase in the temperature since the last treatment The temperature was highest when there was no pyuria

The left kidney was then removed Pathological examination of the specimen showed a general pyonephrosis and cultures yielded colon bacilli Two months after the nephrectomy the patient began to have sudden attacks of severe shooting pains along the course of the left ureter which radiated into the bladder and required large doses of morphine for their relief For two years she had an attack every month or two After from two to seven days the attacks ceased abruptly and a large amount of pus appeared in the urine Between the attacks the urine was never grossly cloudy

The findings of the physical examination made by the author were negative except for a tender scar in the vault of the vagina The urine was negative except for an occasional pus cell On cystoscopic examination it was impossible to find the orifice of the transplanted ureter but in the cystogram a shadow suggesting a small diverticulum was seen in the upper left quadrant of the bladder

The author concluded that the transplanted ureteral stump was infected and at irregular times discharged pus into the bladder An exploratory operation was advised

After the liberation of numerous adhesions the transplanted ureter was found on the upper left quadrant of the bladder extending across the pelvis for about 3 in At the point where it left the pelvic wall below the brim of the pelvis it was buried in dense scar tissue for about 1 in It then continued over the brim of the pelvis about 3½ in

The ureter was resected close to the bladder and the remaining stump cauterized and inverted into the bladder with a pursestring suture reinforced by three Lembert sutures The remaining part of the ureter about 7½ in in length was resected This portion was contracted near its juncture with the bladder Beyond the contracted part there was a portion showing thin walled dilatation The thin purulent material within its cavity contained colon bacilli and staphylococci but no tubercle bacilli

The author concludes that when a healthy ureter is transplanted into the bladder special care should be taken to secure a non constricting implantation To help prevent constriction at the ureterovesical juncture a ureteral catheter left *in situ* for forty eight hours might be of advantage If nephrectomy is necessary the ureter should be resected to the bladder junction J EDWIN KIRKPATRICK M D

BLADDER URETHRA AND PENIS

Redewill F H A Comparison of Leukoplakia Malakoplakia and Incrusted Cystitis Report of Cases and a New Method of Treatment *J Am Med Ass* 1929 xcii 532

Redewill reviews the similarities and differences of leukoplakia malakoplakia and incrusted cystitis and the theories as to the cause of each condition The conditions resemble each other in the formation of calcium deposits and the epidermization of the mucosa Redewill has found that they respond satisfactorily to forced feeding with foods rich in the vitamines especially vitamin A the use of parathyroid substance and local therapy consisting in the usual fulguration diathermy and ecto antig n injections JOSEPH S EISENSTAEDT M D

Stevens W E The Treatment of Malignant Tumors of the Bladder with Special Reference to Surgical Diathermy *California & West Med* 1929 xxx 29

Surgical diathermy unlike surgery sterilizes the operative field and as it does not open blood vessels

or lymphatics *it does not disseminate tumor cells* and thereby produce distant metastases As it seldom causes bleeding no time is lost in the ligation of blood vessels There is very little surgical shock The heat is developed in the tissues and the degree of the heat can be regulated As the depth of penetration can be determined with considerable accuracy the tissues may be coagulated to any depth desired The effect is immediate The active electrode is cold when it is applied and does not burn or char Surgical diathermy is more accurate than radium irradiation

Stevens treats all bladder tumors which are apparently benign as well as borderline tumors through the operating cystoscope One of the important advantages of cystoscopic treatment is the possibility of satisfactory inspection of the bladder soon after the procedure

In the presence of frank or suspected malignancy in cases that have not responded to transurethral treatment Stevens opens the bladder suprapubically and applies surgical diathermy by means of the disk electrode The latter is kept in close contact with the growth in order to prevent charring and carbonization which interfere with the penetration of the current When the tumor is pedunculated the pedicle is severed with the galvanocautery or the Paquelin cautery The surrounding apparently healthy tissue and then the tumor are thoroughly coagulated by means of surgical diathermy The heat is applied slowly and is gradually increased until it can no longer be tolerated by a gloved finger in the rectum or vagina *This finger serves also to elevate the base* of the bladder the most frequent site of malignant growths In the absence of marked infection or bleeding the bladder is sutured without drainage If suprapubic drainage is necessary a very small tube is used and is removed as soon as possible If stenosis of the ureteral orifices occurs the orifices are dilated later through the operating cystoscope After the treatment the bladder should be inspected at intervals during the rest of the patient's life

Four cases of the papillary type of carcinoma of the bladder and three of the infiltrating type were treated by Stevens with surgical diathermy through the open bladder Four of the patients are alive and free from recurrence three years and three months two years and three months two years and one month and six months respectively after the operation Two died of other causes but were free from recurrence one year and one year and four months respectively after the operation One patient died six days after the operation

For the *treatment of malignant neoplasms of the* bladder Stevens has found surgical diathermy of greater value than any other procedure

LOUIS GROSS M D

McKay R W and Colston J A C Diverticula of the Male Urethra a Report of Ten Cases *Surg Gynec & Obst* 1929 xl iii 51

The generally accepted classification of diverticula of the male urethra is as follows

1 Congenital diverticula
2 Acquired diverticula
 a From dilatation of the urethra due to (1) urethral calculus (2) urethral stricture
 b *With perforation* of the urethra resulting from (1) injuries to the urethra (2) rupture of abscesses into the urethra (3) rupture of cysts into the urethra

The author includes under the term pseudo diverticula of the urethra *urine filled urethral* pouches communicating directly with the urethra which are the result of pathological dilatation of normal structures in the posterior urethra by back pressure Acquired diverticula are much more common than congenital diverticula and occur more frequently in the posterior than in the anterior urethra

The symptoms caused by urethral diverticula vary according to the location size depth and degree of infection of the diverticula Diverticula located in the posterior urethra often cause symptoms which are mistaken for those of inflammation of the posterior urethra or verumontanum The most prominent symptoms are deep pain in the perineum dysuria and dribbling at the end of urination The pocket may be emptied by pressure on the perineum *after the completion of urination* Because of the proximity of the internal sphincter to the infected pocket there may be symptoms due to concomitant contracture of the vesical orifice A diverticulum of the anterior urethra forms a fluc *tuating tumor that fills up during the act of urination* and is easily emptied by pressure A stone may alter its consistency and render its evacuation more difficult

Occasionally the transitory subsiding tumor may be seen but as a rule the diagnosis is made by means of the cysto urethroscope and X ray Endoscopic study of the urethra is important In the roentgen examination an opaque catheter may be introduced into the cavity of the diverticulum or the bladder may be filled with sodium iodide solution and the urethra obstructed by a broad band about the penis while the patient is instructed to void Occasionally a stone in the diverticulum renders the diagnosis easy by crepitus against a metal instrument or by its appearance in the roentgenogram

The author reports ten cases In seven which were treated surgically two types of operations were performed In one type of operation an incision was *made through the skin and subcutaneous* tissues over the diverticulum and the diverticulum then freed by sharp and blunt dissection and resected close to its entrance into the urethra The stump of the diverticulum was then turned into the urethra by a purse string suture and the surrounding tissues were brought together by mattress sutures Drainage of the bladder was obtained by means of a retention catheter but the operative area was not drained

In the other type of operation the cavity of the diverticulum and the prostatic urethra were con

verted into one cavity This procedure is applicable only to diverticula in the posterior or prostatic urethra It consists in a perineal or suprapubic approach for removal of the roof of the diverticulum

Five patients were operated upon by the first method and two by the second Shallow diverticula of the posterior urethra are best treated by the removal of the tissues between the diverticulum and the urethra to form a single cavity

One of the authors patients was treated with injections of silver nitrate and two refused treatment

LOUIS NEUWELT M D

Wheeler W I de C Traumatic Rupture of the Urethra *Proc Roy Soc Med* Lond 1929 xxii 469

The author reports six cases of complete traumatic rupture of the male urethra Rupture occurs more frequently in the bulbous portion than in the membranous portion Two important diagnostic signs are large hæmatomata in the perineum and bleeding from the meatus In cases of fracture of the pelvis the urethra is usually ruptured near the prostate Operation should be done in all cases whether an instrument can be passed or not As a rule suprapubic cystotomy and retrograde catheterization are done the urethra being sutured over the indwelling catheter The cystotomy however is the more important part of the treatment

In conclusion the author states that after a year the passage of instruments is unnecessary if the patient is symptomatically well

MAURICE MELTZER M D

Pérard J Surgical Repair of the Urethra in the Female (La restauration chirurgicale de l urètere chez la femme) *J d urol méd et chir* 1928 xxvi 193

Operations for repair of the urethra are indicated in cases of congenital absence of the urethra epispadias and traumatic or operative destruction of the urethra Traumatic destruction of the urethra is usually due to an accident of childbirth

The author reviews the normal anatomy and physiology of the urethra discusses the pathological anatomy of urethral defects and describes the different procedures for repair

The procedures for reconstruction of the urethra in its normal position include freshening and suture replacement of the posterior wall of the partially detached urethra autoplasties with flaps taken from the vesicovaginal septum autoplasties with the use of the cervix or body of the uterus autoplasties with two shutter flaps taken from each side of the urethral groove on the vagina from the vulva or from the labia minora and autoplasties performed at the expense of the bladder which is drawn into a funnel

The procedures which have been used for the restoration of urethral function are cauterization of the meatus transverse tension and suturing of the urethra (both unsuccessful) torsion of the urethra on itself (the value of which is problematical) and pericervicovesical myoplasties (which have been performed frequently especially in Germany)

The technique employed most generally is the Goebell Stoeckel procedure This operation is performed in two stages In the first stage muscle flaps are taken from the abdomen and in the second stage the vesical neck is lined with the flaps The flaps comprise the pyramidal muscles throughout their extent and are left attached to the pubis by their normal insertions

In the Franz operation which has also given good results and is quite similar use is made of the levatores ani

Young of Baltimore resects the vesical neck and the anterior wall of the urethra

There are also the low and high palliative procedures of urinary derivation In the author s opinion none of these is satisfactory

Marion s procedure consists in closing the bladder completely by way of the vagina and draining it by an infrapubic cystostomy and then in a second stage replacing the urethra by a tubular graft of vaginal mucosa inserted into an infrapubic tunnel The author describes this operation in detail

Surgical repair of the female urethra is complex and delicate when the lesion involves the entire extent of the posterior wall of the canal extending as far as and including the neck of the bladder The procedures used up to the present time in such cases have often failed because of the formation of a fistula at the point of union of the new autoplastic canal with the bladder From the point of view of function failure may be due to insufficient length of the new canal thinness of its posterior wall or insufficient support of the region of the neck of the bladder The principal cause of the disunion of sutures is insufficient pre-operative preparation If the urine is not properly disinfected and acidified it will encrust the tissues of the operative field and interfere with cicatrization The causes of failure due to the operative technique are insufficient freshening and insufficient contact of the autoplastic flaps because of a lack of material In the postoperative period failure may result from defective urinary derivation which allows the urine to soil and infiltrate the freshened surfaces In the author s opinion the best procedure for urinary derivation is infrapubic cystostomy PACE

Watson E M Carcinoma of the Male Urethra *J Urol* 1929 xxi 217

Carcinoma of the male urethra is rare and its cause is unknown The cavernous portion of the urethra is involved most frequently and the prostate least frequently Most carcinomata of the prostate are of the squamous celled type Those of the columnar celled variety are less common and papillary carcinomata are unusual

In the majority of the reported cases the diagnosis was made only after there was a definitely palpable tumor The symptoms cannot be well differentiated from those of the earlier lesions namely stricture

or lymphatics it does not disseminate tumor cells and thereby produce distant metastases As it seldom causes bleeding no time is lost in the ligation of blood vessels *There is very little surgical shock* The heat is developed in the tissues and the degree of the heat can be regulated As the depth of penetration can be determined with considerable accuracy the tissue may be coagulated to any depth desired The effect is immediate The active electrode is cold when it is applied and does not burn or char Surgical diathermy *is more accurate than radium irradiation*

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Cumming R E Bladder Dysfunction Following Prostatic Abscess *J Am M Ass* 1929 xcii 128
Peterson A Prostatic Abscess *J Am M Ass* 1929 xcii 130

Cumming reports a case of urinary incontinence associated with a large amount of residual urine in the bladder cystitis and renal back pressure The patient had previously been treated by X ray irradiation and massage for enlargement of the prostate and later a diagnosis of enlargement of the median lobe of the prostate with impairment of the action of the prostatic urethra was made When the patient was first seen by the author he was suffering from severe hæmaturia with urinary incontinence pain from clots fever and prostration Cumming's diagnosis was prostatic cavity forming an extravesical sac with retention of urine and interference with sphincteric activity resulting in incontinence and retention recent infection of the cavity with erosion of vessels and consequent bleeding

Under caudal anæsthesia supplemented by the suprapubic infiltration of procain hydrochloride an operation was performed to effect a free and constant union between the bladder urethra and post urethral cavity It consisted in excision of the median bar tissue deep incision of the leaf of tissue between the bladder and the false cavity the introduction of two lateral mattress sutures for hæmostasis and retraction of the tissues the removal of a wedge shaped area and closure of the bladder with free drainage Complete recovery resulted

Cumming emphasizes the diagnostic importance of a complete history cysto urethroscopic studies and urography

Peterson states that abscess of the prostate may result from the direct extension of a gonorrhœal infection of the posterior urethra or the metastasis of a distal or general infection In his report of seven cases he emphasizes that positive symptoms directing attention to the prostate may be lacking and that in some cases there is no definite softening or fluctuation of the gland

In the operation performed by Peterson a Young prostatic tractor is introduced into the bladder to pull the prostate against the perineum an inverted V incision is made and the prostatic capsule is exposed by blunt dissection on each side of the central tendon followed by displacement of the central tendon to one side A longitudinal incision is then made into the prostate and the cavity is explored with the finger to break down any septa It is usually unnecessary to open each lobe for drainage The cavity is packed with iodoform gauze and a small tube drain is left in place for one week The pack is removed after from twenty four to forty eight hours

GILBERT J THOMAS M D

Wallenstein S Torsion of an Intra Abdominal Testis *J Urol* 1929 xxi 279

The patient whose case is reported was seized with sudden severe pain in the left groin nausea and vomiting Operation which was performed on the ninth day of the illness disclosed a testicle adherent to a loop of intestine and torsion of the testicular mesentery

Pathological examination showed a thin common urogenital mesentery attached to the lower pole of the testis and the globus minor which inverted the testicle the globus major below and the globus minor above There was a twist of 180 degrees involving the spermatic vessels at the juncture of the epididymis and vas The testicle was congested blue and distinctly softer than the normal testicle The epididymis was well developed and the vas appeared normal The processus vaginalis was thickened

Section disclosed a marked increase of interstitial cells The interstitial cells were unusually well developed The tubules were of normal appearance but spermatogenesis was incomplete No fully developed spermatozoa were found

The postoperative course was uneventful and the patient was discharged cured at the end of three weeks

Only seven cases of torsion of an intra abdominal testicle have been reported in the literature The author's case is the second in which the correct diagnosis was made before operation and the second in which the torsion occurred on the left side

C TRAVERS STEPITA M D

Frater K Cysts of the Tunica Albuginea (Cysts of the Testis) *J Urol* 1929 xxi 135

In the literature testicular cysts are described as occupying practically the whole testis and communicating at times with cysts of the epididymis and cysts in the tunica albuginea The case reported by Curling was undoubtedly one of the larger variety occupying the whole testis Few cases of true cyst of the tunica albuginea have been described

Cysts of the tunica albuginea and cysts of the testis are classified separately The cyst reported in this article was a true cyst of the tunica albuginea Trauma is a possible etiological factor

Dean A L Jr The Treatment of Teratoid Tumors of the Testis with Radium and the Roentgen Ray *J Urol* 1929 xxi 83

In 11 per cent of the cases of teratoid tumor of the testis which are reviewed by the author the tumor formation was preceded by direct trauma Incomplete descent of the testis predisposed to malignant degeneration whether the testis was located in the abdomen or in the inguinal canal In 92 per cent of the cases the first sign of the condition was a painless swelling of the testis

Dean emphasizes that in the examination of intra scrotal tumors the possibility of teratoma should be kept in mind and palpation of the abdomen on the same side should be done

In most cases of teratoid tumor of the testis surgery alone offers little hope of cure However because of the undifferentiated nature of their cellular structure these tumors are especially amenable

infection and papilloma For the most part however they are due to obstruction According to Kretschmer the syndrome may be divided into four stages First there is a urethral discharge with dysuria and possibly retention then local tumor formation then a periurethral infiltration of urine and finally fistula formation The few cases with bleeding as an early sign are the cases in which operative relief is possible

The treatment has not been satisfactory In most instances the procedures adopted have given only symptomatic relief A number of cases have been treated by external urethrotomy with incision and drainage of the perineal infiltration Others have been treated by internal urethrotomy followed by urethral dilatation and in some instances by incision and drainage of the perineal mass When the pendulous urethra was the portion involved amputation of the penis has been done usually with no attempt to extirpate the inguinal glands

The author reports two cases In one which was followed for three years there was no recurrence In the other which was followed for five years a recurrence developed but later disappeared under treatment and death ultimately resulted from a cardiac condition C TRAVERS STEPITA M D

GENITAL ORGANS

Nitch C A R Some Problems Connected with Benign Enlargement of the Prostate *Brit M J* 1929 1 139

For inoperable cases of benign enlargement of the prostate Nitch advises diathermy deep X ray therapy and catheterization when the patient is very old or debilitated and permanent suprapubic drainage when catheterization cannot be tolerated

Pre operative problems are based chiefly on the patient s age and general condition In the early stages of enlargement of the prostate the most definite sign of obstruction is residual urine Operation should be done when the residual urine amounts to more than 1½ oz Advanced age is not a contra indication to operation if the patient is otherwise in good condition

Recovery after operation depends mainly upon renal function and resistance to sepsis These must therefore be determined very carefully both clinically and chemically before operation

Nitch believes that the gross mortality of prostatectomy would be greatly diminished if the two stage operation were more generally adopted Preliminary vasoligation is a certain preventive of postoperative epididymitis and is definitely indicated in all cases of pre-operative epididymitis Pre-operative drainage is necessary when there is complete retention or the amount of residual urine is more than 4 oz when there is renal deficiency when severe hæmorrhage occurs from the prostate when urinary sepsis and inflammation of the bladder are present and when the patient is worn out by nocturnal frequency

GILBERT J THOMAS M D

Pelouze P S The Rôle of the Prostate Gland in the Causation of Remote Focal Infective Symptoms A Discussion of the Etiology Pathology Diagnosis Treatment and Prognosis of Such Infections *Med Clin N Am* 1929 XI 1019

After discussing at length the syndrome of prostatic gland infections due to gonococci and mixed cocci the author summarizes as follows

1 The prostate gland is infected in at least 35 per cent of all adult males

2 Next to the teeth and tonsils it is the focus of infection causing the greatest number of system symptoms of toxic absorption

3 Most infections of the prostate can be attributed to a past gonorrhœa though the gonococcus has long since disappeared from the field

4 A surprisingly large number of men who have never had gonorrhœa have infection of the prostate

5 The association of other foci of infection particularly in the teeth or tonsils is far too great to be attributed to coincidence

6 Unquestionably these latter are commonly the primary causes of prostatic infection

7 It is often impossible to clear up the pathological condition of the prostate until these foci have been removed

8 Though these distant foci are streptococcic those in the prostate are frequently staphylococcic

9 Such being the case the question arises as to why these secondary infections should be continued by other bacteria in what in many cases is evidently a blood borne infection

10 Undoubtedly an explanatory factor is perverted physiology of the prostate

11 The chronicity of prostatic infections is due largely to poor drainage of the gland follicles

12 A cure is brought about best by gentle prostatic massage to establish drainage

13 If the distant symptoms of toxic absorption are not greatly improved in one month of such treatment given twice a week the prostatic infection i not their sole cause

14 If the evidences of infection of the gland are not reduced in six weeks the cure is being retarded by some other condition of the urogenital tract

15 If pus is still found in the prostatic secretion after three months the patient should be given a rest from treatment for from six to eight weeks

16 Autogenous vaccine at times seem to aid but they are usually quite disappointing

17 When treatments are given at shorter intervals than three days they commonly cause an acute inflammatory reaction and when they are given a week apart they seldom produce a cure

18 There are certain prostatic infections in which the gland is so badly damaged that it cannot be rendered free from pus

19 Patients with infection of the prostate gland feel best when their urine looks worst Accordingly prostatic massage to promote drainage is commonly indicated when their urine is clear

C RUTHERFORD O CROWLEY M D

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES TENDONS ETC

Lewin P Epiphyses Their Growth Development Injuries and Diseases *Am J Dis Child* 1929 xxxvii 141

The functions of the epiphyses are (1) to serve in the formation of joints (2) to serve as attachments for muscles and tendons and (3) to develop the length of the bones In the hand the bones ossify earlier in the female than in the male The bones of the first child ossify earlier than those of subsequent children The ossification is bilaterally symmetrical Variation in the ossification of bones is a heritable trait

The epiphyses obtain their blood supply from the network of periosteal arteries branches of which perforate the compact bone to be distributed throughout the cancellous bone independent of the diaphyseal blood supply Rarely more than one or two small arteries pass over the epiphyses from the diaphyses this fact accounting for the infrequent occurrence of necrosis of the epiphysis when the diaphysis is more or less completely displaced from the epiphysis Four sets of vessels are found at the upper end of the femur (1) vessels extending from the diaphysis of the femur (2) epiphyseal vessels proper (3) vessels arriving by way of the ligamentum teres and (4) periosteal vessels

The factors which affect the epiphyses are heredity circulatory changes trauma infection diet ultraviolet rays exercise or muscular effort fresh air endocrine disturbances obesity chemicals massage roentgen rays and radium The first seven are the most important The three most important groups of disorders are disturbances of growth and development and injuries and diseases of the epiphyses Interference with growth and development may be due to injury or disease of the epiphyses plus circulatory nutritional muscular metabolic or glandular disturbances Rapidly growing tissues to which the epiphyses belong are more vulnerable than other tissues

Heredity plays a part in epiphyseal disorders These conditions are found chiefly during young childhood and adolescence Males are more frequently affected than females chiefly because trauma is an important factor There may be one severe trauma or repeated slight injuries Infections of various types including tuberculosis and syphilis may affect the epiphyses Nutritional disturbances are important as is also the effect of exercise Glandular disturbances often affect the epiphyses producing serious disorders It appears that the effects of disturbances of the endocrine glands are more noticeable on the epiphyses than on the shafts of the bones Premature ossification is found in midgets and dwarfs delayed ossification in gigantism and infantilism When the epiphyses of a bone have united with the shaft there can be no further increase in length of that bone (except by operation) and conversely until union occurs there is a possibility of an increase in length

Trauma may act as the exciting factor in a manner analogous to the bringing out of the rash of measles by a hot bath Focal infections are undoubtedly important

The pathological changes occurring in epiphyseal disorders are the results of circulatory mechanical traumatic nutritional and infectious disturbances Little is known of the pathological changes due to epiphyseal disorders because most of these conditions do not warrant operative surgical interference and few of them cause death As a basis for conclusions it is therefore necessary to study roentgenological experimental and autopsy evidence which is chronologically imperfect

The symptoms of epiphysitis (excepting the acute infectious type) are similar to those of early tuberculosis They differ in different locations

In Still's disease there is an effect on the epiphyses which may cause early ossification and arrest of growth of the affected bones Roentgenograms reveal changes in the shape size and opacity of the epiphyses A condensing osteochondritis is the most common late observation

The chief conditions to be differentiated are tuberculosis fracture dislocation and pyogenic infection Syphilis scoliosis rickets acute infections congestion growing pains Still's disease hæmophilia scurvy osteomyelitis and septic arthritis must also be ruled out In the spine nutritional disturbances may be found

Except in cases of acute septic epiphysitis the prognosis is usually good so far as the recovery of function is concerned but is not so good with regard to the restoration of the form of the epiphysis The course is usually comparatively short In various locations the prognosis is affected by various factors For example in the hip knee or foot weight bearing is important in the production of deformity of the epiphyses In the spine weight bearing and gravity are important factors

The treatment of epiphyseal disorders other than those of the acutely infectious type consists of general and local measures The former are determined by the general condition of the patient The local treatment consists of rest immobilization and support and relief from weight bearing or the effects of gravity Traction plaster-of Paris casts splints and braces are often indicated Hototherapy heliotherapy active and passive movements and mas

to irradiation Conversely the tumors most lacking in malignant qualities are least radiosensitive

Of sixteen patients with an operable teratoma of the testis who were treated by external high voltage roentgen ray irradiation and radium packs thirteen were cured whereas of ninety seven with an inoperable tumor who were similarly treated twenty eight were rendered free from all signs of the condition

In conclusion the author states that when a patient presents himself with a teratoid tumor of the testis and no metastases can be found the treatment of choice is thorough irradiation of the testis and abdomen of the same side followed in from four to six weeks by orchidectomy Several courses of irradiation should be given at intervals as short as the toleration of the patient will permit Operative removal of metastases from a malignant testicular tumor should not be attempted Maximum irradiation by means of the radium pack and high voltage X ray offers a far greater chance for permanent relief JOHN G CHEETHAM M D

MISCELLANEOUS

Patch F S The Association Between Leukoplakia and Squamous Cell Carcinoma in the Upper Urinary Tract *New England J Med* 1929 cc 423

Leukoplakia is generally regarded as a precancerous condition and squamous cell carcinoma of the urinary tract is usually ascribed to it

In a review of the literature the authors found the reports of 121 cases of leukoplakia and 152 cases of squamous cell carcinoma occurring in the kidneys ureters and bladder On beginning the investigation they thought that the simultaneous occurrence of leukoplakia and squamous cell carcinoma in the kidneys ureters and bladder was infrequent They were therefore surprised to find 13 cases They report these cases in detail together with a recently observed case in which almost general leukoplakia of the upper urinary tract was associated with a squamous cell carcinoma of the bladder and one kidney JOHN P O NEIL M D

The authors made oscillograph studies of normal muscles muscles in a state of idiopathic degeneration and spastic muscles

In normal muscles action is divided into four stages—rest beginning innervation maximum innervation and relaxation

In a case in which a sympathetic ramisection had been done for Buerger's disease the findings were about the same on the affected and the normal sides

In a case of hemiplegia of the pyramidal type the record showed a great number of oscillations of large amplitude even when the muscles seemed clinically to be at rest

In a case of progressive muscular dystrophy the frequency and amplitude of the oscillations were below normal

In a case of bilateral hemiplegia in which a lumbar rami ection was performed on one side there was a marked reduction of the oscillations on that side

ELVEN J BERKHEISER M D

Murray G R Myofibrositis as a Simulator of Other Maladies *Lancet* 1929 ccxvi 113

Fibrositis of the chest muscles may suggest angina pectoris but the pain of fibrositis is induced or aggravated only by the use of the affected muscles (usually the pectoral or intercostal muscles) and not by other exertion or by emotion Moreover it is not accompanied by the sense of constriction which is so characteristic of angina pectoris and is not relieved by the use of vasodilators In fibrositis careful palpation of the pectoral muscles in the relaxed condition with the arms hanging by the side may reveal the presence of a tender swelling near the lower border of the muscle and firm pressure over the sternocostal insertions when the muscles are brought into action will often elicit marked tenderness In the treatment rest and relaxation of the muscles are necessary The arm should be supported in a sling which raises the elbow sufficiently to elevate the clavicle and prevent the weight of the arm from dragging on the shoulder and nerves

Fibrositis of the intercostal and other respiratory muscles may also simulate pleurisy but there is no persistent fever the physical signs of pleurisy are absent and an area of tenderness can usually be detected in the region where the pain is felt

Diseases of the blood vessel such as intermittent claudication may be simulated by fibrositis

Inflammation of a strip of the soleus muscle occasionally suggests phlebitis but careful palpation shows that the tender cord like swelling is in the muscle and not in a vein

Fibrositis of the anterior abdominal muscles may suggest intra abdominal disease Involvement of the upper segment of the left rectus or its fibrous insertions in the fifth sixth and seventh ribs may suggest gastric disease as it is liable to be more severe after a meal if the stomach becomes distended The author cites a case in which fibrositis of the outer part of the right rectus caused pain which for some time was attributed to biliary colic

In fibrositis of the abdominal muscles the pain is of a dull aching character and is generally felt at one particular point from which it tends to radiate It is relieved by rest in bed recurs again when the erect position is assumed and increases in severity and extent during the day There is no cutaneous hyperæsthesia Certain movements may be acutely painful especially if they are executed after rest in one position With the patient lying flat on his back with his knees drawn up to relax the muscles palpation may reveal a definite slightly tender swelling in the muscles at the site of the pain When the patient contracts the recti strongly by raising his head and upper part of his trunk from the recumbent position firm pressure made with the tips of the fingers on the muscle at the point where the pain is felt reveals acute tenderness In contrast to the findings in intra abdominal disease the tenderness under the same pressure is far greater when the muscle is contracted than when it is relaxed

Fibrositis of the occipitofrontalis muscle and of the epicranial aponeurosis may cause headache A fibrositic headache may simulate cranial neuralgia but is generally more constant It may be felt chiefly in the region of the occipital or frontal muscle or may be diffused throughout the region covered by the epicranial aponeurosis Voluntary movements of the scalp are often painful and on careful palpation small tender swellings may be detected in or at the line of attachment of the occipital or frontal fibers to bone or fascia

Neuritis which is usually a neurofibrositis is a common cause of pain and is not infrequently associated with myofibrositis

Stockman believes that fibrositis is usually the result of a secondary infection and Rosenow has shown that myofibrositis may be caused by streptococci of low virulence lodged in the capillaries near the tendinous insertions of the affected muscles In the treatment it is therefore of importance to eliminate foci of infection

Leveuf Twelve Cases of Spina Bifida (Douze observations de spina bifida) *Bull et mém Soc nat de chir* 1928 liv 1137

Of twelve patients with spina bifida who were treated surgically by the author nine are living Leveuf states that they may later develop hydrocephalus but this is not the usual result of the operation There are severe forms of spina bifida for which surgery can still offer nothing Leveuf uses the ordinary technique in his operation but prevents the injurious action of the cerebrospinal fluid in the wound by prolonged ventral decubitus with the pelvis elevated which is begun before the operation and continued until the wound has cicatrized

OMBRÉDANNE who entered into the discussion of Leveuf's work does not believe that the hydrocephalus observed after operation for spina bifida is the result of infection at the site of operation He does not consider it proved that there is a relation between the operation and the appearance of acute

sage are of value in various conditions at different periods in the treatment The treatment should not be directed entirely to the local condition the patient as a whole must be considered

The author discusses the following conditions osteochondritis deformans coxæ juvenilis Osgood Schlatter s upper tibial epiphysitis osteochondritis of the upper end of the tibia osteochondritis of the lower end of the tibia and fibula apophysitis of the os calcis Kohler s tarsal scaphoiditis juvenile deforming metatarso phalangeal osteochondritis Freiberg s infraction of the metatarsal head osteo chondritis of the base of the fifth metatarsal bone vertebral epiphysitis osteochondritis deformans ju venilis of the shoulder joint coxa vara luxans acute infectious epiphysitis chronic infectious epiphysitis traumatic epiphysitis avulsion of the epiphysis of the tuberosity of the ischium Kienbock s carpal scaphoiditis two stages of epiphyseal growth equali zation of the length of the legs in cases of fractured femur in children glandular disturbances epiphysi tis in miscellaneous locations and other conditions

The article is thirty seven pages in length and contains eighteen illustrations.

Sheldon J H An Undescribed Disease of Bone *B it J Surg* 1929 xvi 40

The case reported was that of a boy who had al ways been healthy until the age of eleven years The patient s father had bony nodules at both elbows When the patient was eleven years of age a hard tumor developed in front of the right knee This was excised and found to be an osteoma on the head of the tibia Four years later it recurred and was again removed At about the same time the left knee be came involved in a similar manner When the pa tient was eighteen years of age a similar condition developed in the right humerus and a swelling ap peared near the right wrist broke spontaneously and discharged thick pus The pus was sterile The bone in the region of the wrist was found to be in fected and a sinus persisted until the patient s death

The post mortem photographs show an enormous tumor on the right arm near the shoulder which was about as thick as the patient s chest It enclosed the scapula and extended to the vertebral column and down the arm to the elbow It weighed 23 lb Its periphery was a firm white tissue with numerous cysts In the center there was cartilage and near the humerus the tumor contained bony spicules Histologically the neoplasm was a spindle-cell osteosarcoma The lower half of the humerus was normal but the upper half was expanded into a cir cular mass infiltrated by fibrous tissue The scapula and clavicle were both more or less involved by bone destruction and enveloped by the sarcoma The distal ends of the radius and ulna showed bone destruction and proliferation

The right femur presented irregular osteomata around the trochanter and bony septa in the lower half Its marrow was atrophied Exostoses were found on the left femur around the distal end In the quadriceps tendon there was a large mass of cancellous bone which was continuous with the patella Several pieces of free bone were found in the knee joint The right tibia and fibula had rough irregular exostoses at both ends especially over the mesial aspect near the knee where a large mass of cancellous bone was present Over the tubercle of the left tibia there was a mass of bone several times the bulk of the patella which extended in a crescent shape up into the joint capsule A piece of free bone weighing 27 gm was taken from in front of the ankle Exostoses were found also on the skull the vertebral column the ribs and the pelvis and there was extensive ossification of the arachnoid membrane of the brain

The thyroid was diffusely enlarged but the pitui tary was of normal size All of the bones showed aplasia of the marrow The red marrow had been re placed by an unhealthy looking fatty substance The cortex of all of the bones seemed harder than usual when it was sawed and was difficult to de calcify Chemical analysis showed the calcium con tent to be normal The extreme hardness was at tributed to the fact that the haversian canals were filled up with deposits of new bone as revealed by microscopic examination

This case had some resemblance to progressive myositis ossificans since many of the exostoses were secondary being first formed in the muscles and tendons and becoming fused with the skeleton later Ossification of the arachnoid has been found in acromegaly and Albers-Schonberg disease (marble bones) but it never causes symptoms The large osteosarcoma of the humerus is regarded by the author as a malignant neoplasm superimposed on the generalized bone disease Supervening malig nancy is especially common in diaphyseal aclasis

The condition was similar in some respects also to acromegaly Although the pituitary was normal in size and appearance there was an increase in the eosinophile cells in the anterior lobe cells which are found in great numbers in adenoma of the pituitary gland Moreover there was an increase in the absolute size of some of the bones The patient s general appearance also suggested acromegaly

WILLIAM L. CLARK, *M D*

Steindler A and Lindemann E Alteration of the Action Current of Skeletal Muscles Following Sympathetic Ramisection A Preliminary Report on Electromyographic Studies *J Bone & Joint Surg* 1929 xi 1

The authors discuss the influence of the sympa thetic nervous system on the tonus of the skeletal muscles from the anatomical physiological and clinical standpoints

According to one theory the non myelinated fibers which end in striated muscle are a part of the sympathetic nervous system whereas according to another the somatic fibers supply one type of muscle fiber and the sympathetic supplies another type

Cicatrization of the skin is not the only cause of such deformities retraction of the muscles and tendons shortening of the articular capsule and sometimes skeletal deformities are important factors

Before operation in the cases reviewed a plaster cast was applied to the forearm with a banjo splint ready for elastic traction With a tourniquet about the arm all cutaneous and subcutaneous scar tissue was then removed to prevent recurrence of the deformity and provide a healthy bed for the transplanted skin The deformity was corrected in part by gentle force with care to prevent injury to the synovia capsule and joints The wounds were dressed with physiological salt solution and elastic traction was then applied When the correction had been completed and the granulations were healthy Thiersch grafts were applied

The author states that shortening of the capsule and tendons is usually due to shortening of the soft tissues resulting from abnormal position He emphasizes that the efficiency of traction is increased when a support is placed as far distally as the proximal phalangeal joint SAMUEL I ROBBINS M D

Tailhefer A The Technique and Results of Repair of the Tendons of the Hand and Fingers (Les techniques et les résultats actuel de la réparation les tendons de la main et des doigts) *Presse méd* Mar 1928 xxxvi 1337

The author has sutured twenty two extensor and fourteen flexor tendons The repair of flexor tendons is particularly difficult except at the wrist The best technique is the lacing suture This may be made rapidly with the aid of a special grill clamp devised by Tailhefer A solid suture with linen thread permits active mobilization of the finger on the day after the operation the best means of preventing adhesions

In the wrist and the hand it is better to attempt primary suture whenever the wound can be cleansed immediately In cases of infected wounds and in all digital sections of the flexors it is preferable to delay operation until three or four months after healing

When the cutaneous covering of the sutures is of poor quality it is sometimes advisable in a preliminary operation to excise the cicatricial tissues and perform an autoplasty If the tendons appear to be destroyed a tendinous autograft should be used

Tailhefer emphasizes the importance of suturing the nerves of the hand not only on account of their sensory and motor function but also because of their important trophic function PACE

FRACTURES AND DISLOCATIONS

Grimault L Isolated Fractures of the Lumbar Transverse Processes Ten Cases (Fracture isolées des apophyses transverse lombaires à propos de dix observations) *Bull et mém Soc nat de chr* 1928 liv 1356

Grimault states that the ten cases of isolated fractures of the lumbar transverse processes reported in this article were seen by him in the period between January 1927 and August 1928 and nine of the patients were miners In six cases at least three processes were fractured The anatomical variety reported in the literature as being least frequent—fracture of the first four lumbar vertebræ—was found in five of the cases and in one of these there was in addition a fracture of all five lumbar vertebræ In four cases consolidation was brought about by bone callus

Herndon says that the prognosis depends chiefly on the mechanism by which the fracture was produced that if only one or two processes are fractured the patient will not be incapacitated for more than three months but that when three four or five processes are fractured and the fragments are displaced the average duration of incapacity for work is six months and the pain may persist much longer

In the author s one case in which only one process was fractured recovery was rapid and complete but of three patients with fracture of two processes only one recovered completely the others still have pain In all cases with fracture of three four or five processes the late results have been poor The patients have been unable to work and have severe lumbar pain The poor results are not due to insufficient treatment All of the patients remained in bed a long time and in cases with several fractures a plaster corset and orthopedic apparatus were applied Therefore treatment by immobilization and plaster is evidently insufficient The pain is intense and persistent particularly in cases with fracture of the two last lumbar processes which are nearest the nerve trunks As the pain is due to pressure on the nerves the fractured processes should be resected AUDREY G MORGAN M D

Gangler J Isolated Luxation and Subluxation of the Navicular Bone of the Foot (Die isolierte Luxation und Subluxation des os naviculare pedis) *Beit klin Chir* 1928 cxlii 671

The author reports the case of a man forty two years of age who was thrown forward by a falling tree his right foot being struck simultaneously from behind in the ankle region and from above on the plantar arch by a large branch The physician who first saw the patient after the accident made a diagnosis of greenstick fracture and applied a plaster cast to the leg When the cast was removed five weeks later an immobile swelling measuring 2 5 by 1 5 cm was found 4 cm in front of and below the internal malleolus there was a severe grade of traumatic flat foot and pronation and supination were impossible The distance from the tuberosity of the os calcis to the head of the first metatarsal bone was 1 5 cm greater in the left foot than in the right foot The roentgenogram showed an almost complete luxation of the scaphoid bone inward and somewhat upward

The treatment consisted in extirpation of the bone that had been forced out of its niche almost completely in an upward and medial direction No

hydrocephalus He believes that children with spina bifida are liable to symptoms due to latent cerebral malformation A child surviving operation for spina bifida for three or four years is not liable to develop symptoms of hydrocephalus as these symptoms usually appear within a year after the operation

BRÉCHOT stated that in his opinion the ventral position is less important than the inclination of the body PACE

Ody A Case of Kuemmel Verneuil Disease (Un cas de maladie de Kuemmel Verneuil) *Bull et mém Soc nat de chir* 1928 liv 1106

The patient whose case is reported ran into an automobile while riding his bicycle and sustained a transverse diaphyseal fracture of the right femur As the fracture failed to unite an osteosynthesis with a Lambotte plate and graft was done Three months later there was good consolidation but with ankylosis of the knee and limitation of function of the right hip joint Five months after the accident the patient complained of dorsolumbar pain which prevented him from working He stated that he had felt this pain a short time after the accident but at that time it was much less severe Upon rest in bed it ceased

Examination revealed anteroposterior flattening of the thorax and a gibbus at the eighth and ninth dorsal vertebræ with complete ankylosis of the whole dorsolumbar column Roentgenograms showed a kyphosis caused by cuneiform flattening at the anterior summit of the eighth and ninth dorsal vertebræ with ossification of the common anterior vertebral ligament and decalcification of the vertebral bodies at this point The intervertebral disks were preserved There was no evidence of arthritis deformans The condition was a traumatic spondylitis

The author recommends an orthopedic corset for limitation of the pain and deformity of Kuemmel Verneuil disease

After the direct or indirect traumatism involving the spinal column and causing transitory disturbances there may be an interval of freedom from symptoms or with pain which is slight in proportion to the process rarifying the vertebral bodies and causing the formation of a dorsal gibbus There is usually a certain degree of scoliosis as well as kyphosis The suppuration of tuberculosis the thickening of bone associated with syphilis and the changes due to arthritis deformans are lacking

The author reports also two other cases of Kuemmel Verneuil disease one typical and the other atypical

Kuemmel attributes this posttraumatic condition to a disturbance of nutrition of the vertebral bodies resulting in atrophy with consequent collapse of the spinal column According to the most generally accepted theory it is due to a fracture by compression but in Kuemmel's opinion such a fracture is the exception Ody would like to combine the two theories believing that there are cases in which the compression of the vertebral bodies comes about gradually after a period of trophic alteration

The development of the syndrome may be prevented by two or three months rest in bed When the deformity has already begun a corset (first of plaster and later of celluloid) should be worn for at least a year The patient should not attempt hard manual work Prolonged immobilization may be avoided by the Albee graft operation PACE

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Moulonguet P and Senèque J Volkmann's Syndrome Early Aponeurotomy Recovery (Syndrome de Volkmann ap névrotomie précoce guérison) *Bull et mém Soc nat de chir* 1928 liv 1094

The authors report the case of a boy seventeen years of age who sustained a fall on the elbow which was followed by very severe pain in the forearm and a rapid increase in the size of the elbow The swelling was most marked in the antebrachial region and advanced to the wrist No dressings were applied During the night following the accident there was painful formication in the hand and the fingers had a tendency to flex toward the palm The next morning an ecchymosis was found at the internal border of the elbow Movement of the elbow was possible but limited There was marked tension of the soft parts of the anterior surface of the forearm especially at the insertion of the epitrochlear muscles The fingers were in a state of semiflexion and attempts at straightening them caused very severe pain The pulse of the radial and cubital arteries was normal Roentgenograms of the forearm and elbow showed the bones to be intact

The condition was diagnosed as a diffuse hæmatoma of the forearm probably originating from a lesion of the epitrochlear muscles Two incisions were made in the aponeurosis The principal cause of the diffuse hæmatoma was found to be the rupture of a muscular arteriole detached from the internal border of the cubital artery Immediately after the incisions the formication ceased and the fingers could be easily extended The skin was sutured without drainage but the two aponeurotic incisions were left open

The authors state that intra aponeurotic hypertension is only one factor in the pathogenesis of Volkmann's syndrome In some cases vascular and vasomotor lesions and lesions of the nerve trunks play an important rôle in the production of muscular lesions which later give rise to cicatricial sclerous myositis resulting in ischæmic retraction Early aponeurotomy may prevent the painful retraction of the flexor muscles of the fingers PACE

Gianturco G L A Contribution on the Treatment of Certain Cicatricial Deformities of the Hands (Contributo alla cura di alcune deformità cicatriziali della mano) *Ch d organs di movimento* 1928 xiii 158

The author reports the treatment of three deformities of the hand produced by severe burns

Cicatrization of the skin is not the only cause of such deformities retraction of the muscles and tendons shortening of the articular capsule and sometimes skeletal deformities are important factors

Before operation in the cases reviewed a plaster cast was applied to the forearm with a banjo splint ready for elastic traction With a tourniquet about the arm all cutaneous and subcutaneous scar tissue was then removed to prevent recurrence of the deformity and provide a healthy bed for the transplanted skin The deformity was corrected in part by gentle force with care to prevent injury to the synovia capsule and joints The wounds were dressed with physiological salt solution and elastic traction was then applied When the correction had been completed and the granulations were healthy Thiersch grafts were applied

The author states that shortening of the capsule and tendons is usually due to shortening of the soft tissues resulting from abnormal position He emphasizes that the efficiency of traction is increased when a support is placed as far distally as the proximal phalangeal joint SAMUEL L. ROBBINS M D

Tailhefer A The Technique and Results of Repair of the Tendons of the Hand and Fingers (Les techniques et les résultats actuel de la réparation des tendons de la main et des doigts) *Presse méd* Par 1928 xxv 1 1337

The author has sutured twenty two extensor and fourteen flexor tendons The repair of flexor tendons is particularly difficult except at the wrist The best technique is the lacing suture This may be made rapidly with the aid of a special grill clamp devised by Tailhefer A solid suture with linen thread permits active mobilization of the finger on the day after the operation the best means of preventing adhesions

In the wrist and the hand it is better to attempt primary suture whenever the wound can be cleansed immediately In cases of infected wounds and in all digital sections of the flexors it is preferable to delay operation until three or four months after healing

When the cutaneous covering of the sutures is of poor quality it is sometimes advisable in a preliminary operation to excise the cicatricial tissues and perform an autoplasty If the tendons appear to be destroyed a tendinous autograft should be used

Tailhefer emphasizes the importance of suturing the nerves of the hand not only on account of their sensory and motor function but also because of their important trophic function PACE

FRACTURES AND DISLOCATIONS

Grimault L Isolated Fractures of the Lumbar Transverse Processes Ten Cases (Fractures isolées des apophyses transverse lombaires à propos de dix observations) *Bull et mém Soc nat de chir* 1928 liv 1356

Grimault states that the ten cases of isolated fractures of the lumbar transverse processes reported in this article were seen by him in the period between January 1927 and August 1928 and nine of the patients were miners In six cases at least three processes were fractured The anatomical variety reported in the literature as being least frequent—fracture of the first four lumbar vertebræ—was found in five of the cases and in one of these there was in addition a fracture of all five lumbar vertebræ In four cases consolidation was brought about by bone callus

Herndon says that the prognosis depends chiefly on the mechanism by which the fracture was produced that if only one or two processes are fractured the patient will not be incapacitated for more than three months but that when three four or five processes are fractured and the fragments are displaced the average duration of incapacity for work is six months and the pain may persist much longer

In the author's one case in which only one process was fractured recovery was rapid and complete but of three patients with fracture of two processes only one recovered completely the others still have pain In all cases with fracture of three four or five processes the late results have been poor The patients have been unable to work and have severe lumbar pain The poor results are not due to insufficient treatment All of the patients remained in bed a long time and in cases with several fractures a plaster corset and orthopedic apparatus were applied Therefore treatment by immobilization and plaster is evidently insufficient The pain is intense and persistent particularly in cases with fracture of the two last lumbar processes which are nearest the nerve trunks As the pain is due to pressure on the nerves the fractured processes should be resected

AUDREY G MORGAN M D

Gangler J Isolated Luxation and Subluxation of the Navicular Bone of the Foot (Die isolierte Luxation und Subluxation des os naviculare pedis) *Beitr klin Chir* 1928 cxlii 671

The author reports the case of a man forty two years of age who was thrown forward by a falling tree his right foot being struck simultaneously from behind in the ankle region and from above on the plantar arch by a large branch The physician who first saw the patient after the accident made a diagnosis of greenstick fracture and applied a plaster cast to the leg When the cast was removed five weeks later an immobile swelling measuring 2 5 by 1 5 cm was found 4 cm in front of and below the internal malleolus there was a severe grade of traumatic flat foot and pronation and supination were impossible The distance from the tuberosity of the os calcis to the head of the first metatarsal bone was 1 5 cm greater in the left foot than in the right foot The roentgenogram showed an almost complete luxation of the scaphoid bone inward and somewhat upward

The treatment consisted in extirpation of the bone that had been forced out of its niche almost completely in an upward and medial direction No

difficulty was experienced in the extirpation as al most all of the capsular and ligamentous attach ments even in the interior of the tarsus had been ruptured The resulting cleft 1 5 cm wide was cor rected by adduction of the anterior part of the foot and the foot was encased in a plaster cast in the slightly overcorrected position After three weeks the plaster cast was removed

Eight months after the injury the patient had a slight limp but was able to walk for three hours without a cane Walking for a longer time produced the symptoms of flat foot Sinking of the plantar arch did not recur but pronation and supination were limited as before

The author attributes the isolated luxation of the navicular bone to an essentially indirect mechanism He divides the accident into two stages First there resulted from the fall forward with the tip of the foot fixed a maximal dorsiflexion of the foot which resulted in separation of the scaphoid bone from the plantar ligaments and rupture of the median liga ments Then the blow from the falling tree on the heel produced a maximal extension of the foot as a result of which the still uninjured dorsal ligaments ruptured and the navicular bone was pushed out upward over the neck of the astragalus and inter nally toward the cuboid bone

On the basis of this mechanism the cases reported in the literature may be divided into two groups according to whether the dorsiflexion or the exten sion was the chief traumatic factor The author believes that weakness of the ligaments is a prereq uisite

As a rule the dislocation can be diagnosed only roentgenologically Its treatment consists in re moval of the navicular bone Both non-operative reduction and operative reduction have proved un satisfactory In experiments on the cadaver the author was unable to produce the dislocation even with the aid of complicated apparatus

The microscopic picture of the extirpated bone is similar to that of the limiting process in epiphyseal bone and the aseptic bone necrosis described by Axhausen KEMPF (Z)

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD TRANSFUSION

Levine P Human Blood Groups and Individual Blood Differences (Menschliche Blutgruppen und individuelle Blutdifferenzen) *Ergebn d inn Med* 1928 xxxv 111

This article offers a critical survey of our present knowledge of blood groups and individual blood differences in man After giving a historical review of blood grouping the author discusses the agglutinins and agglutinogens of the several blood groups their presence in cells and body fluids their development in the fetus and newborn and their quantitative variations especially in disease He states that the apparent variations in blood grouping brought about by drugs the roentgen rays menstruation and pregnancy are due to incorrect observations and to associated conditions which favor more marked pseudo agglutination On the other hand there are considerable differences in the degree of the reaction in different individuals which may easily lead to error in the determination of the blood group when weak sera or less sensitive blood cells are used Variations from the normal iso agglutination such as pseudo agglutination auto agglutination cold agglutination and the variations from the Landsteiner grouping rule which have been described in the literature are mentioned Among the latter it is necessary to differentiate blood specimens which do not react as expected those which point to a subgroup and those showing a positive reaction when the grouping does not warrant such a result It is very possible that in a number of cases the method employed was not sensitive enough

Levine regards it as justifiable to conclude that Group A has two subgroups although as yet these have not been found of any practical significance There seems to be a subgrouping also in Group AB Levine has seldom found it possible to analyze reported atypical positive reactions because in most instances the examination was incomplete and the method is not described in sufficient detail More over auto agglutination is confused with pseudo agglutination and the effects of cold agglutinins are overlooked Blood which has been kept for a long time may gain the property of being agglutinated by any serum regardless of the group All of the variations described in the literature are merely exceptions which do not detract from the value of Landsteiner s grouping

The group specific reactions and a series of individual blood differences within any particular group may be demonstrated also by animal sera

The nature of agglutinogens is still unknown There is reason to believe that lipoids form the specifically reacting portion of the antigen However it has not as yet been proved that every quality demonstrable by serum reactions is due to a certain chemical substance or even that it corresponds to a single sharply differentiated chemical group

The author advises against the use of blood from the universal donor Group O in transfusion In general he believes it safe to use only blood from similar groups However blood from Group O may be kept for some time in Rous preserving fluid at a cold temperature for emergency use

The methods of choosing a donor are described The author recommends the trial of a blood suspension with Serum A and B As a rule it is not necessary to confirm the result by testing the blood serum with known A and B blood cells

With regard to the nature of transfusion accidents not due to errors in the serum test or surgical technique little is known The author briefly reviews the possible causes of such accidents and the results of investigation regarding them He then discusses the influence of racial differences and heredity on blood grouping There is a brief survey of the forensic value of blood group determinations in the examination of traces of blood and the determination of paternity KABOTH (G)

LYMPH GLANDS AND LYMPHATIC VESSELS

Speese J Mesenteric Adenitis *Pennsylvania M J* 1929 xxxii 225

In fifty seven cases of mesenteric adenitis studied by the author tuberculosis was found infrequently in the mesenteric nodes at the time of operation or on histological examination of removed nodes

Appendicitis is often associated with lymphadenitis but plays a secondary role in the glandular enlargement Operation is indicated because of the difficulty in the differential diagnosis and to correct the complex pathological conditions found

Mesenteric adenitis presents characteristic symptoms and its presence should be suspected in the cases of undernourished children suffering from attacks of colicky abdominal pain followed by remissions It occurs most frequently in children and young adults

Acute inflammatory enlargement of the nodes may be associated with acute and chronic lesions of the appendix As the nodes have been found to harbor streptococci their rupture may be followed by peritonitis Therefore routine extirpation of the nodes for study seems hazardous

In the presence of mesenteric adenitis the postoperative treatment is important and follows the general plan of tuberculosis therapy

In the majority of cases the end results are satisfactory JOHN H GARLOCK M D

Iverche W Hodgkin s Disease of the Neck and Mediastinum Bilateral Cervical Operations Mediastinotomy *Arch Surg* 1929 xviii 329

The author reports the case of a woman with Hodgkin s disease who has been operated upon several times and is now living after eighteen years with no evidence of the condition The first indication of the disease was enlargement of the left supraclavicular nodes On removal of the nodes by operation a diagnosis of lymphoma probably Hodgkin s disease was made In six months the condition recurred in the same region and at a second operation nodes in the supra clavicular space and of the upper paratracheal chain were removed The diagnosis made at that time was lymphosarcoma Hodgkin s disease A year later a third recurrence developed and more nodes were removed

Nine years after the initial onset of the condition the patient was operated upon for enlarged supra clavicular nodes on the right side Two years later she returned complaining of dyspnœa hoarseness a rattling noise in the chest difficulty in swallowing and itching Roentgenograms revealed a large mass apparently jutting forth from the mediastinum and occupying a large part of the right side of the chest cavity A part of this mass was removed and diagnosed as Hodgkin s disease

The operation was followed by X ray treatments Since that time a period of eight years the patient has been in perfect health with no recurrences

The mass in the chest apparently sprang from the tracheobronchial nodes and pushing the pleural cover of the tracheobronchial space ahead of it projected laterally into the chest cavity on the right side where it grew in all directions except mesially

Surgical treatment for Hodgkin s disease is not in vogue today yet Yates an ardent advocate of early complete excision of the superficial nodes followed by X ray therapy has had good results and has ex pressed the belief that recovery may be expected in 20 per cent of cases

In the author s case the roentgen ray therapy applied in 1914 and 1916 did not check the progress of the disease but the form and amount of irradia tion used after the mediastinotomy in 1921 was sufficient to prevent recurrence of the condition up to the present time The average course of Hodg kin s disease is only two or three years

HOWARD A MCKNIGHT M D

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Palmer R S Oxygen Therapy in the Treatment of Pneumonia and Postoperative Pulmonary Complications *New England J Med* 1929 cc 330

Palmer reports cases of pulmonary tuberculosis lobar pneumonia bronchopneumonia lung abscess carcinoma of the bronchus asthma and emphysema in which the oxygen tent was used with good results at the Massachusetts General Hospital The treatment resulted in definite relief of the cyanosis dyspnœa and restlessness If maximum benefit is to be obtained it must be begun when the cyanosis is first noted EARLE I GREENE M D

Lenormant C and Iselin M Postoperative Pulmonary Atelectasis (Latélectasis pulmonaire post-opératoire) *J de chir* 1928 xxvii 527

The case reported was that of a man twenty seven years of age who was operated upon for duodenal ulcer The day after the operation he was slightly cyanotic and developed a cough his temperature rose to 40 5 degrees C and his respirations increased to thirty per minute The diagnosis of pneumonia was considered but on the following day the heart was found to be displaced toward the left and a diagnosis of massive atelectasis was made and confirmed by roentgenography The patient quickly recovered His temperature became normal on the ninth day

The first two roentgenograms of the series made showed complete atelectasis The entire left hemithorax was opaque and contracted and the heart displaced toward the left In the third roentgenogram the lung was found to be partially re inflated The summit had cleared and the middle and base were much less opaque The cardiac shadow was beginning to mask the right edge of the vertebral column In three succeeding roentgenograms the gradual re insufflation of the lung could be followed The heart resumed its normal position but the left hemithorax remained a little flattened although the ribs tended to resume their natural obliquity The diaphragm which had not been distinct in the preceding roentgenograms remained slightly elevated

The authors review the history of atelectasis Postoperative atelectasis occurs more frequently in the male than in the female It has developed after every kind of surgical operation performed with or without anæsthesia It may also follow non surgical traumatism

Massive atelectasis usually begins suddenly twenty four hours after an operation The first symptom is dyspnœa Sometimes there is a vague thoracic or retro xiphoid pain The respiration is rapid and the face cyanotic or a brick red The cough results in the expectoration of mucus or mucopurulent material which often contains the micrococcus catarrhalis or the pneumococcus The pulse becomes accelerated and the temperature rises The heart is displaced toward the involved side Palpation may reveal elevation of the diaphragm on the left side

The cases may be divided into two groups—those with more or less complete cessation of vibrations and the vesicular murmur and those with an increase in these phenomena In the absence of complications postoperative atelectasis always ends in recovery Partial involvement of the lung is very frequent

The pathogenesis of postoperative pulmonary atelectasis has not yet been established Factors which seem to play a rôle are insufficiency of pulmonary ventilation bronchial obstruction and vasomotor reflexes

Preventive treatment consists in measures to favor pulmonary ventilation after operation Any dressing which compresses the thorax and abdomen should be removed The patient should be placed in the Fowler position and should be turned frequently from side to side Respiratory exercises should be prescribed Systematic hyperventilation during or after anæsthesia is important Position and hyperventilation are the curative procedures In bronchial obstruction the bronchoscopic aspiration of mucus is indicated PACE

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Beekman F Tannic Acid Treatment of Burns End Results in 114 Cases Compared with 320 Treated by Other Methods *Arch Surg* 1929 xviii 803

During the period between June 1919 and August 1928 434 children suffering from burns were admitted to the Children's Surgical Service Fourth Division Bellevue Hospital New York Most of the burns were of the second or third degree and involved more than 10 per cent of the surface of the body The ages of the patients ranged from a few weeks to twelve years

The causes of the burns were equally divided between moist (scalds) and dry heat Scalds were more numerous in children under six years of age whereas burns from dry heat occurred more often in the older children

Three hundred and twenty of the patients were treated prior to November 1925 The type of treatment used in the first group varied The 114 patients in the second group were treated with a 5 per

cent solution of tannic acid Fluids were forced at all times Opiates were used sparingly

In the first group there were 89 deaths a mortality of 27 8 per cent and in the second group 17 deaths a mortality of 14 9 per cent The causes of the deaths are shown in the table

CAUSES OF DEATHS

Total cases	320		114	
Total deaths	89	27 8	17	14 9
Deaths from shock (first 48 hours)	8	5 6	6	5 3
Deaths from toxæmia (second to tenth day)	57	17 8	6	5 3
Late deaths (after 10 days)	4	4 4	5	4 3

The author draws the following conclusions

1 The tannic acid method of treating cutaneous burns is the most satisfactory treatment so far advocated

2 In a series of 434 cases of burns in children the mortality was decreased from 28 to 15 per cent

3 This decrease was the result of a decrease in the death rate from toxæmia by two thirds

4 Toxic absorption in burns takes place within twenty four hours of the occurrence of the burn The highest mortality from toxæmia occurs in the period between the end of the first twenty four hours *and the end of the third day*

5 The average hospital stay of patients was increased six days by the tannic acid treatment This was probably due to the fact that patients with severe burns lived who otherwise would have died

CARL R STEINKE M D

ANÆSTHESIA

Hornabrook R W The Safety of Ethyl Chloride and the Position of the Patient During General Anæsthesia *Brit M J* 1929 1 500

At the Melbourne Dental Hospital and the Melbourne Eye and Ear Hospital anæsthesia has been induced with ethyl chloride in over 75 000 operations on patients of all ages with only 2 deaths Ethyl chloride should be employed only for short anæsthesias The author believes that when it is administered by an expert anæsthetist by the open method with the patient in the upright position it is one of the safest of anæsthetics

GEORGE R MCAULIFF M D

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Friedman L J Iodized Oil in Roentgenology *Radiology* 1929 xii 114

The author reviews the use of lipiodol in the nasal accessory sinuses eustachian tube respiratory tract urogenital tract central nervous system and fistulous tracts

He states that examination of the urine after bronchography and salpingohysterography with lipiodol or iodipin reveals traces of iodine for many days

He injects the nasal sinuses by means of a cannula in the natural orifices or by puncture For injection of the bronchial tree he prefers the subglottic or transcricothyroid route He has devised a special cannula for this purpose

The exploration of the bronchial tree is comparatively harmless but the cases must be selected Friedman believes it is contraindicated in tuberculosis and hyperthyroid disease In the renal tract the use of iodized oil is unnecessary Moreover the solution is too viscid to inject into the ureter even when it is diluted by mineral oil The use of iodized oil for cystography was found to be very satisfactory but the cost of the quantity of oil necessary was prohibitive The author believes that the use of lipiodol in the uterus is harmless and gives accurate findings He has seen no ill effects when iodized oil has been employed in the diagnosis of pregnancy

The injection of iodized oil into the central nervous system requires great caution

CHARLES H HEWLOCK M D

Handley W S Radiology from a Surgeon's Standpoint *Lancet* 1929 ccxvi 1

The author divides the history of roentgen therapy into three periods (1) that of inadequate and tentative dosage (2) that of massive intensive therapy and (3) that of measured and divided doses The use of measured and divided doses is becoming increasingly effective in the control and prevention of recurrence of malignant disease

The discovery of radium made it possible to introduce the focus of radiation within the body and thus to increase the dose of radiation received by the diseased area while reducing to the minimum the dose received by the rest of the body The author discusses the time quantity ratio of radium application and the value of radium as a prophylactic agent when used in conjunction with surgery in cancer of the breast He believes that very small doses of radiation may exert a stimulating effect upon the cells of a malignant growth and cites several clinical observations in support of his opinion If this theory is correct radiation applied directly to the center of a malignant growth may kill the neoplasm at that point but may tend to spread it at the periphery where the dosage is reduced Therefore it may be advisable to treat first the periphery rather than the center of the area in which cancer cells are likely to be present

ADOLPH HARTUNG M D

RADIUM

Forssell G Radiumhemmet the Radiotherapeutic Clinic of the Cancer Society of Stockholm Its Organization Methods of Work and Results of Treatment (Die radiotherapeutische Klinik des Kanzervereins in Stockholm Radiumhemmet ihre Organisation Arbeitsmethoden und Behandlungsresultate) *Acta radiol* 1928 ix 315

Radiumhemmet consists of a clinical division a radiological policlinic a radium department an X ray department a history department a laboratory for physical investigations and departments of tumor pathology and experimental medicine

The radiotherapeutic clinic contains ward and private beds The work consists in dressings minor operations laboratory examinations and the application of radium

The radium amounting to 2 026 31 mgm of radium sulphate is divided among 213 gold platinum tubes and needles and 35 flat plates for surface treatment For distant radium treatment 500 mgm of radium element are used in special carriers (radium cannon) Solid radium preparations are preferred to emanations because they are less dangerous

The X ray department consists of a machine room an irradiation room and a service room Light and air are obtained from two sides The rooms are adequately protected against the injurious effects of the direct and secondary rays by a lead lining The entire department is aired several times daily by ventilators Vacations are compulsory for the personnel The members of the staff are urged to stay out of doors during their vacations and to take up sports As a result no general or blood injuries have been observed among them

Operations supplementing the application of radium and electrocoagulations combined with surgicoradiological therapy are performed in the operating room

The history department was planned on the pattern of the history departments of the Mayo Clinic and the Memorial Hospital of New York Patients are followed up after their discharge

The physical laboratory periodically tests the apparatus measures dosage and carries out scientific investigations in medical radiology It also standardizes and controls the roentgen departments

of various hospitals thereby providing a uniform standard of dosage for the entire country

The pathological department verifies the clinical diagnoses

The experimental division conducts experiments on animals with regard to cancer etiology and ray biology

The chief undertaking at Radiumhemmet is the treatment of malignant tumors and because of the present lack of space practically only malignant tumors are treated in its clinical division It is regarded as desirable however so far as possible to treat also benign tumors and diseases of a bacterial nature in order to accumulate experience in other branches of radiotherapy Treatment of the latter types of conditions is done for the most part in the policlinic

Radium therapy has been the chief weapon against malignant tumors but roentgenotherapy is also necessary in the treatment of such neoplasms The two forms of rays supplement each other

GUIDING PRINCIPLES IN THE RADIOTHERAPY OF MALIGNANT TUMORS

The results of radiotherapy depend mostly upon the method of treatment and the technique A general statement as to the value of radiotherapy in malignant tumors is impossible as it varies considerably with the type and location of the tumor Failures are sometimes due to faulty technique The guiding principles of treatment are to influence the power of growth of the tumor so that the healing power of the body can overcome the disease and to avoid injury to the adjacent tissue or the general resistance of the body which will prevent the organism from reacting against the weakened tumor The main factors in the treatment are (1) proper dosage and distribution (2) proper technique and (3) organized supervision of the course of the disease during and after treatment

There is no uniform carcinoma dose except in the sense that a certain minimal quantity of absorbed radiation is necessary for a certain time to cure a certain cancerous tumor In each case there is a certain maximal dose which cannot be exceeded without causing injury to the surrounding tissues or the organism as a whole Different types and locations of cancer require different dosages Each case must be treated individually The required dose should be applied within the shortest time preferably *at one sitting Fractional treatment is indicated* only when this is impossible because of the location and size of the tumor or because there is danger of too strong a reaction in the adjacent tissue

All of the cell elements mobilized by the healing process *are highly radiosensitive and are* inevitably affected by repeated irradiation Hence the originally induced healing process must be given the necessary time to develop up to a certain degree before the irradiation is repeated A strong irradiation produces after a certain time a lasting change in the connective tissue and blood vessels around the *tumor which may reduce the power of* reaction and increase the tendency toward necrosis Hence an interval between irradiations depending upon the conditions present should be allowed so that the irradiation will be completed before the occurrence of lasting changes which will make healing difficult *However the interval should not be long enough to* allow the tumor to resume its growth The duration of treatment should be as short as possible and the attempt made to obtain as rapid healing as possible and prevent the development of metastases during the time of treatment The treatment does not favor the development of *metastases but metastases* may form as long as viable tumor tissue remains

In the treatment of most malignant tumors especially those in body cavities approachable from without radium irradiation is superior to roentgen irradiation but the form of application—contact irradiation distant irradiation or implantation—must be decided by the conditions in the particular case

IRRADIATION TECHNIQUE

In cases of facial labial uterine and oral cancer radium is applied to the primary tumor In the treatment of oral cancer radium irradiation is often combined with electrocoagulation Operable glandular metastases from skin lip and oral cancers are operated upon and irradiated and inoperable glands are given roentgen or distant radium treatment When direct irradiation is possible highly filtered radium irradiation is best Radium is preferred for cancers in body cavities Recently greater use has been made of distant irradiation and implantation (gold platinum or gold steel needles with radium sulphate) In the pre-operative and postoperative treatment roentgen irradiation or distant radium treatment is given and sometimes radium implantation is done as well Sarcomata are given roentgen irradiation alone or combined with radium irradiation Roentgen rays are used also for large tumors and glandular metastases when the supply of radium is not sufficient for distant treatment

THE CURATIVE POWER OF RADIOTHERAPY

Only cancers that are cured by irradiation exclusively or chiefly after a period of five years are considered cured

The few patients with operable cancers of the breast who have been treated by irradiation seem to *have fared just as well as those with tumors* of other groups

Of 39 patients with cancer of the thyroid (34 of whom were inoperable) about 15 per cent were free from symptoms for more than five years

In cases of cancer of the vulva the end results from combined irradiation and surgical treatment have been strikingly favorable whereas the results of surgery alone have been poor Eight of 26 patients receiving the combined treatment were cured

Cancers of the skin of the face may be divided into the superficial and the infiltrating types Of 102

cases of superficial tumors a cure was obtained in 88 (86 3 per cent) If 9 cases of incomplete treatment are excluded the incidence of cure is increased to 95 per cent Of 105 cases of infiltrating tumors a cure was obtained in 51 4 per cent If operable cases are included the incidence of cure was 67 5 per cent In the total number of 207 cases of cancer of the skin of the face the incidence of cure was 68 6 per cent In the 182 technically operable cases it was 78 per cent

Lip cancers are also classified as superficial and infiltrating In cancer of the lower lip the difference in the results in the two types of tumor was marked Of cancers of the superficial type 90 per cent were cured whereas of cancers of the infiltrating type only 34 per cent were cured Of the infiltrating but technically operable cancers 75 per cent were cured The results were much better in the operable cases Of 20 cases of cancer of the upper lip 70 per cent were cured All of 11 superficial tumors remained cured but of 9 infiltrating lesions only 3 remained cured

None of the infiltrating cancers of the lip or skin with inoperable glandular metastases were cured by radiotherapy but a clinical cure was obtained in 3 cases of local infiltrating recurrences which developed after the operative removal of a lip cancer without glandular metastases Operable glandular metastases were extirpated

Radiotherapy was given in 244 cases of cancers of the oral cavity Some of these were also operated upon Of 160 cases given irradiation treatment alone 19 per cent were cured after one year and of 113 cases 18 per cent remained cured after five years Permanent cure was obtained only when the lesion was macroscopically limited to its primary site In none of 72 cases with glandular metastases was even a one year cure obtained However the glandular metastases were very extensive and infiltrating and the patient s general condition was so poor that only a palliative effect was attempted In the inoperable cases with glandular involvement only roentgen therapy was used

In cases of operable and inoperable tumors confined to their primary sites and without metastases in the regional glands the results were decidedly better Of 88 cases a one year cure was obtained in 35 per cent a three year cure in 33 per cent and a five year cure in 31 per cent Irradiation and surgical treatment combined gave a one year cure in 63 per cent of 84 cases a three year cure in 64 per cent of 56 cases and a five year cure in 60 per cent of 22 cases The frequency of recurrence after one year cures was slight The incidence of cure was about twice as high after irradiation and surgical treatment combined as after irradiation alone

In cases of operable primary tumors irradiation alone resulted in a one year cure in 62 per cent a three year cure in 62 per cent and a five year cure in 56 per cent whereas combined therapy gave a one year cure in 75 per cent a three year cure in 80 per cent and a five year cure in 65 per cent In cases of tumors with regional metastases on the other hand radium treatment alone had no clinical results whereas the combined therapy gave a one year cure in 37 per cent of 27 cases a three year cure in 35 per cent of 20 cases and a five year cure in 2 of 5 cases

In cases of cancer of the cervix uteri an absolute cure (five years) was obtained in 20 7 per cent Of 234 inoperable cases 39 were clinically cured for five years by radium therapy Five year cures were obtained in 15 of 25 operable cancers of the uterine cervix

Of 543 patients with sarcomata of various types who were treated with radium and the roentgen rays one third were free from symptoms for at least three years Of these 392 (238 with primary tumors and 154 with recurrences) were treated by irradiation alone and 151 were given combined surgical and irradiation treatment Of the 238 with a primary tumor (148 inoperable) who were treated by irradiation alone 24 per cent remained free from symptoms whereas of the 154 with recurrences or postoperative metastases only 18 per cent were cured Of 151 with sarcoma who were given surgical and irradiation treatment two thirds were rendered free from symptoms In these cases the most radical operation possible was performed and deep irradiation of the tumor and glands was given frequently before the operation Different types of sarcoma gave different results Permanent cures were obtained in cases of tumors that were inoperable because of their location (nasopharynx and orbits)

CURATIVE RESULTS OF COMBINED IRRADIATION AND SURGICAL TREATMENT

In a consideration of the results of combined treatment it is necessary to differentiate between cases operated upon in apparently healthy tissue and cases in which only an incomplete operation was possible In the latter permanent cures may be credited to the irradiation In suitable cases the combination of radiotherapy with operative extirpation of the main mass considerably favors cure The value of pre-operative postoperative and preventive irradiation is still undetermined The development of tumors is not prevented by a preventive treatment of the surrounding tissues any effect obtained is due to the action of the irradiation upon existing latent metastases The object of pre-operative radiotherapy is not only to remove the tumor but also to reduce or remove a peritumoral infiltration by producing a resorption process thereby simplifying the radical removal of the tumor and possibly rendering an inoperable tumor operable It is intended also to weaken the virulence of the tumor and diminish the danger of its surgical dissemination The healing process induced by irradiation of the tumor seems to increase the resistance of the body to the slightly developed peritumoral metastases

In cancer of the vulva electrocoagulation combined with irradiation was tried as the results of

operation in this condition are very poor and radiotherapy has only a palliative effect Of 26 patients with vulvar cancers who were given the combined treatment 8 remained free from symptoms for from one to three years In cancer of the cervix uteri the combined treatment gives many more permanent cures than operation alone and in cases operated upon incompletely permanent cures have been obtained by after treatment

In cases of ovarian cancer which were operated upon incompletely the incidence of permanent cures after irradiation was strikingly high

Of 76 patients with cancer of the breast who were given postoperative roentgen irradiation 60 per cent showed no recurrence after three years Of 26 with adherent tumors or axillary adenopathy 68 showed no recurrence but of 15 with supraclavicular adenopathy only 1 remained free from recurrence Of 33 patients treated with single doses only 16 showed no recurrence after one year Recurrence were more common after the use of this technique than after the administration of numerous small doses In some cases of breast cancer preoperative and postoperative irradiations gave very good results

PALLIATIVE RESULTS OF RADIOTHERAPY

The palliative effect of radiotherapy in malignant tumors is generally recognized A primary local cure (freedom from symptoms) was obtained by palliative treatment in 1 174 of 4 470 cases An absolute palliative result was obtained in 78 3 per cent of skin cancers 69 7 per cent of lip cancers and 45 2 per cent of uterine cancers

For a correct estimation of palliative results it is necessary to deduct the cases in which primary healing cannot be definitely achieved such as those of cancer of the larynx and hypopharynx the œsophagus the stomach the large intestine the bladder and the cerebrum and cases of hypernephroma

Of 413 cases of sarcoma a primary cure was obtained in 24 2 per cent Of 1 676 cases of carcinoma primary local freedom from symptoms was obtained in 20 2 per cent Primary local healing (freedom from symptoms) was obtained by irradiation treatment alone in 51 5 per cent of 3 354 cases In especially favorable groups the incidence of primary cures ranged from 60 to 90 per cent About one fifth of the patients with carcinomata that were too far advanced for curative treatment were rendered free from symptoms About 45 per cent of all patients with malignant tumors and about 60 per cent of those who finished their treatment showed marked improvement in their symptoms

THE VALUE AND INDICATIONS OF PALLIATIVE TREATMENT

Palliative results are best in cases of tumors of such a type and location that a curative form of therapy can be planned—relatively circumscribed tumors—and in cases of very advanced uterine cancer In cases of sarcoma and carcinoma of the mouth pharynx vulva maxilla thyroid and pituitary gland combined palliative and electrocoagulation therapy may be given In breast cancer permanent cures are rare but in 64 of 251 cases—the majority with local recurrences and regional adenopathy—primary local freedom from symptoms was achieved and in 100 cases there was marked improvement The palliative effect was greatly increased by combined radiotherapy and internal thyroid medication Radiotherapy is of value in breast cancer and is indicated for all cases of malignant tumors in which reduction of the tumor may be expected When the lesion has only a primary location and curative therapy is possible curative therapy should be selected but when there is extensive local spreading of the tumor or manifest adenopathy a palliative effect should be sought from the outset with circumscribed irradiation of manifest tumors Sterilization of large areas is hopeless and dangerous When no palliative effect is to be expected radiotherapy should not be tried

RESULTS IN BENIGN NEOPLASMS

Irradiation was successful in 1 187 cases of skin warts in 19 it failed to effect a cure In cases of multiple warts and tylosis and other papillomatous formations the internal use of 1 mgm of magnesium sulphate in very dilute solution three times a day for from two to three months was very successful Flat radium applicators suitably filtered were used for skin angiomata The dose should not be repeated until a distinct cessation of healing is noted When this rule is observed a cure may be obtained without scarring Many cavernous angiomata have been cured by a single treatment Of 118 superficial cavernous hæmangiomata 70 per cent showed a cosmetic cure and the others marked improvement without atrophy Larger doses and repeated treatment result in inflammatory skin reactions Of 59 deep cavernous hæmangiomata 45 were treated expectantly In 28 of the latter a cosmetic cure was obtained and in the others there was marked improvement In cases of capillary hæmangiomata cosmetically satisfactory results were obtained only when the lesions were small

Of 57 patients with pronounced exophthalmic goiter 30 were completely cured 13 per cent were greatly benefited 5 were benefited but not rendered able to work 5 were not benefited 3 developed a recurrence and 1 died Roentgen therapy inhibits thyroid secretion within one or two months with improvement in the subjective symptoms and a slowly progressive curative effect When radiotherapy is given properly the danger is slight but in some cases especially after roentgen therapy or a later operation there is a possibility of secondary hypothyroidism Surgical treatment seems preferable to radiotherapy because of its more rapid and in severe cases more certain though mutilating effects but radiotherapy has certain indications because of its less destructive action

LOUIS NEUWELT M D

MISCELLANEOUS

Pariseau L E Diathermy *Canadian M Iss J* 1929 xx 146

The author states that the path followed by high frequency currents is similar to that which would be followed by unidirectional or low frequency currents The skin effect seems to be negligible Superficial hot spots and edge effects may be avoided by proper application of the electrodes Maximum heat at the center is a misleading slogan In a homogeneous unobstructed and unconstricted electrical field the greatest heating effect is always to be found near the electrodes In obstructed fields internal hot spots are possible The blood stream tends to nullify the deeper local effects of diathermy currents

GERTRUDE BEARD

Lynham J E A Clinical Remarks on Radiation Treatment *Proc Roy Soc Med* Lond 1929 xxii 447

This article is a brief review of the therapeutic application of irradiation including the use of ultraviolet light roentgen rays and radium

With regard to the ultraviolet light the author states that although the exact biological mechanism by which its cures are accomplished are as yet not entirely understood some of the principal factors have been ascertained the technique has been mastered the effects are sure and the results so satisfactory that the treatment is now thoroughly established and recognized as indicated in rickets lupus surgical tuberculosis obscure debility and numerous other conditions

The great complexity of roentgen ray treatment is attested by the voluminous literature The action of these rays in the various conditions in which they are used is still imperfectly understood and many discrepancies exist between theory and practice While the numerous contributions made by physicists physiologists and biologists have led to accuracy of measurement exactness in dosage facility in therapeutic routine and clearness of thought as to the objectives and technique many problems remain to be solved The author cites a number of experimental studies which have a bearing on the application of irradiation Clinical observations for which no adequate explanations are available and others suggesting the advisability of changing the usual technique are recorded

In the use of radium in the form of radon needles experience has shown that smaller doses have a better effect than large ones Attention is called by the author to the value of combined methods of treatment and of continuous biological reaction as produced by the saturation method of Phaler Many other points of practical importance are given brief consideration

ADOLPH HARTUNG M D

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LOUIS NEUWELT M D

was involved Chordomata are of slow growth Although they may be large and are generally definitely malignant they usually do not lead to an early fatal issue

The chordoma was first described by Luschka in 1856 but Mueller in 1858 was the first to claim that it is of notochordal origin The name chordoma was first suggested by Ribbert in 1894

Stewart's comprehensive description of the tumor was as follows

Chordoma is a tumor arising from relics of the notochord and is met with chiefly in the neighborhood of the spheno occipital synchondrosis and in the sacrococcygeal region

Both simple and malignant forms occur the latter being much the more common Even the malignant varieties are usually of slow growth and long continued course especially those occurring in the sacrococcygeal region They tend to recur after removal and cause death chiefly by their local effect dissemination being quite exceptional

Intracranial clivus tumors by virtue of their position are much more serious than the sacrococcygeal their average duration from the onset of symptoms being about two years as compared with nine years in the latter group

The histological characters are distinct The tumor is alveolar in structure and the parenchyma usually of epithelial type is composed of cells which become the seat of mucoid degeneration at a very early stage of their development The mucoid change ultimately progresses to an extreme degree and is comparable to that seen in the nucleus pulposus of an intervertebral disk In malignant cases the nuclei show great variation in size and in depth of staining and nuclear vacuolation may be present

JACOB M MORA M D

GENERAL BACTERIAL PROTOZOAN AND PARASITIC INFECTIONS

Fleming A Lysozyme *Lancet* 1929 ccxvi 21

Lysozyme is a ferment like substance isolated by the author which has the power of killing and dissolving bacteria While it has a destructive effect on many pathogenic bacteria its extraordinary bacteriolytic action is most evident on bacteria which are non pathogenic In its action on dead bacteria in old cultures it differs markedly from the bacteriophage which shows a lytic effect only on young rapidly growing cultures The lytic substance is rapidly diffused through a medium such as the ordinary agar which is used for the culture of bacteria

Lysozyme was found by the author in all human tissues examined and in all human secretions except normal urine sweat and cerebrospinal fluid Cartilage has the strongest concentration The concentration is high also in tears and leucocytes

In the tissues of the rabbit and guinea pig the content of lysozyme is very much less than in man The content of the ferment in the tissues of the dog is midway between that of the rabbit and guinea pig and that of man The white of the hen's egg shows a high concentration Lysozyme is detectable also in birds fish and garden vegetables Of the vegetables the turnip shows an especially high content

In observations on the action of lysozyme on various micro organisms Fleming found that bacteria showing the least lysis are the bacillus coli group whereas those most susceptible are the intestinal streptococci

In its pure form lysozyme is an amorphous light yellow substance easily soluble in water Approximately 3 mgm can be obtained from a good sized hen's egg It acts best in a neutral medium It is thermolabile and is filterable on prolonged filtration It causes lysis most rapidly when the salt content of the medium is about 0 5 per cent Alcohol and acetone precipitate lysozyme but do not destroy it Egg white has been found to retain its activity after it has remained in these fluids for a year

When micro organisms are grown in gradually increasing concentrations of lysozyme containing material such as egg white they may acquire a resistance to the ferment This fact seems to show how a non pathogenic or only slightly pathogenic microbe may increase its virulence

The bactericidal power of lysozyme has been found to be increased after the solution of large numbers of bacteria

The wide distribution of lysozyme suggests that the ferment is of great importance in protecting against bacterial invasion It is present in regions which are deficient in other protective mechanisms

JACOB M MORA M D

Manoussakis L Transfusion or Injection of Blood from Subjects Vaccinated Against the Streptococcus in the Treatment of Severe Streptococcic Infection (La transfusion ou l injection du sang provenant des sujets vaccinés contre la streptococcie dans le traitement de l infection streptococcique grave) *Bull et mém Soc méd d hôp de Pa* 1928 xlv 1412

The results of specific serotherapy applied to the treatment of severe streptococcic infection (streptococcic septicæmia streptococcic meningitis) are inconstant This fact has been attributed to the diversity of strains of streptococci However polyvalent an antigen may be it may lack certain strains Morever it has been held that the streptococcus to whatever strain it belongs is a mediocre antigen not often capable of provoking a sufficient reaction in the animal or human subject receiving the injection In order to study the general reactivity toward the streptococcic toxin the author used the following technique

The toxin was prepared by cultivating the streptococci on human serum diluted 10 times in physiological serum After twenty four hours in the incubator the cultures were filtered and after tests of its sterility the toxin was titrated The maximum dilution

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Wright I S Bilateral Gangrene of the Feet Following Tonsillectomy *Am J Dis Child* 1929 xxxvii 121

The author reports a case of tonsillectomy with three unusual sequelæ (1) a markedly septic course with the development of a heart murmur (2) bloody stools and (3) gangrenous areas on both feet involving the toes The complications were followed by clinical recovery except for a residual systolic cardiac murmur and the loss of one toe

The patient was a girl two years old Physical examination revealed nothing abnormal except hypertrophied tonsils and adenoids The operation was simple and the patient was sent home the next day The following day her temperature rose to 101 degrees F and for eight days ran a septic course Beginning on the sixth day after the operation and continuing for four days the patient passed large amounts of bright red blood with every stool

Seventeen days after the operation the third toe on the right foot was black the fourth toe on the left foot was a dull red and there was a purple spot over the left malleolus The heart action then became very rapid and a rough first sound was noted

Gangrene of the toes resulted The gangrene was dry in type When the gangrenous areas were incised the contained fluids were found positive for streptococcus hæmolyticus Twenty five days after the operation there was a terminal gangrene of the second third and fourth toes of the right foot and of the fourth toe of the left foot with a moderate cellulitis of both legs and ankles The gangrenous spots slowly cleared up except for the end of the third toe of the right foot which became dry and partly fell off the two distal phalanges being lost

There are three possible explanations of these phenomena The first is that the tonsillectomy was not the exciting factor the second that the tonsillar fossæ gave rise to showers of bacterial emboli and the third that the heart valves were secondary foci of infection from which bacterial emboli were distributed

The first explanation seems untenable as the symptoms began immediately after the operation there were no symptoms premonitory of the postoperative syndrome before the operation and no other possible exciting cause was ever found

The theory that bacterial emboli were distributed to the endarterioles of the affected areas namely the endarterioles of the mesenteric vessels and those supplying the feet is supported by the fact that the slough remained in the left tonsillar fossa until the twenty second day However it is difficult to trace a path through the blood stream by which emboli could travel from the tonsillar fossa to the mesenteric vessels without being caught in the lungs or liver

It seems possible that the tonsillectomy favored the development of an acute vegetative endocarditis and that bacterial emboli were thrown off into the circulation and reached the endarterioles of the mesenteric vessels and the affected areas of the feet

There were apparently three sets of embolic showers (1) to the mesenteric vessels on the third day (2) to the vessels of the feet on the fourteenth day and (3) to the vessels of the feet on the twenty second day HOWARD A MCKNIGHT M D

Cherry T The Tubercle Bacillus and Cancer in Mice *Med J Australia* 1929 i 160

Cherry reports experiments on mice in which tubercle bacilli were inoculated beneath the cuticle Two series of experiments were carried out In the first series mice fed on raw milk were used Fifty one were inoculated and 51 employed as controls In the second series mice fed on boiled milk were used 45 being inoculated and 100 employed as controls

The incidence of tumors in the stock of mice used was 6 per cent After the inoculation it rose to 55 per cent in males and to 71 per cent in females About one third of the tumors were mesoblastic and two thirds were epithelial

In range of type and situation the series of neoplasms differed from those previously reported Some of those arising in the thyroid pylorus colon pancreas prostate and bladder have not been observed in mice heretofore

The mice exhibited also an associated syndrome of lymphoid changes The relation of this syndrome to leukæmia pseudoleukæmia and lymphosarcoma and its etiology are discussed

The occurrence of tuberculomata the findings of acid fast bacilli in 10 per cent of the mice and the lymphocytic character of the associated lesions are believed by the author to indicate that the bacilli had established themselves in the tissues Cherry concludes also that the findings of the investigation afford presumptive evidence that the tubercle bacillus was the indirect but essential agent in the promotion of neoplastic growth in the mice FRANK B BERRY M D

Hutton A J and Young A Chordoma A Report of Two Cases A Malignant Sacrococcygeal Chordoma and a Chordoma of the Dorsal Spine *Surg Gyn & Obst* 1929 xlvi 333

Eighty cases of chordoma have been reported in the literature One of the two cases reported by the authors was the first case in which the dorsal spine

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NOTE —THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

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which when injected into the skin in a dose of 0 2 c cm would give a distinct dermal reaction was determined A dose 100 times greater was injected under the skin in several subjects and in several regions The vaccinating injections were repeated every fifteen days and each time a part of the toxin was injected into the skin to follow the progress of the immunity The subject was considered vaccinated when there was only an insignificant or no intradermal reaction to the toxin and the subject serum neutralized the effect of the toxin

Similar investigations were undertaken with polyvalent toxins and in a certain number of cases a polyvalent bacterial vaccine was combined with the toxinic vaccine

In the large majority of the subjects it was very difficult to obtain immunity One subject who had had three streptococcic infections in the form of erysipelas could not be immunized A few subjects however were perfectly immunized by the vaccinations Immunity was obtained after from sixty to ninety days

Immunization having been found possible the author used the serum or blood of the immunized subjects in transfusions or injections in the treatment of streptococcic infection The results obtained with this method in four cases have been encouraging In the first case the condition was erysipelas of the face in the second meningitis due to the hæmolytic streptococcus in the third a streptococcic septicæmia coming on thirty two days after the beginning of acute otitis and in the fourth streptococcic septicæmia consecutive to mastoiditis complicated by thrombophlebitis of the lateral sinus and internal jugular vein

There are two serious difficulties to the procedure viz the finding of a sufficient number of volunteers to undergo the progressive vaccination and the finding of the donors again at the proper time Lace

Chitty H Treatment of Actinomycosis *B M J* 1929 i 347

The author has noted that various iodized fats seem to exert a specific action on actinomycosis He reported eight cases in which a complete cure was obtained by the administration of iodine in milk and cites two cases of actinomycosis of the lung reported by Preston in which marked improvement resulted after the intratracheal injection of lipiodol for diagnostic purposes and a cure was effected later with iodine and milk

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INTERNATIONAL ABSTRACT OF SURGERY

AUGUST, 1929

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Fischer H Traumatic Facial Paralysis and Its Surgical Treatment by Free Transplantation of Fascia Lata *Ann Surg* 1929 lxxxix, 3 4

The author reports a case of complete paralysis of the left side of the face in a girl eighteen years of age which had been present ever since an operation performed when the patient was ten weeks old for the removal of a tumor at the angle of the inferior maxillary bone just below and behind the lobule of the ear

In the operation performed by the author which was done under general anæsthesia a strip 20 cm long and 2 cm wide was cut from the fascia lata a small incision made through the skin over the zygoma and with a properly curved aneurism needle the strip of fascia was looped around the zygoma One end of the strip was then armed with a long straight needle and the needle pushed along subcutaneously toward the angle of the mouth until it reached a point on the upper lip about 1 cm above the commissure of the lips The cheek was then everted by an assistant and after its mucous membrane had been thoroughly cleansed and painted with an iodine solution the needle was pushed through the mucous membrane and the fascial strip pulled through

From the point of emergence of the fascial strip a small incision was made vertically downward through the mucous membrane to a point 1 cm below the commissure At this point the needle was pushed through the muscular structure of the cheek under the skin and its point made to reappear in the small incision over the zygoma The loop of the fascial strip took in the insertions of the musculus zygomaticus and the musculus risorius at their points of insertion at the angle of the mouth It was pulled taut until the angle of the mouth on the paralyzed side was on a level with the normal side The two ends of the fascia were then knotted together and fastened with a few chromic gut sutures to the masseteric fascia

Immediately after the fascial strip had been placed a normally deep nasolabial fold appeared but at the same time there was noticed a slight dimpling of the skin below the lower lip This slight deformity was corrected by pushing a Cooper scissors through the small incision in the mucous membrane of the cheek and subcutaneously mobilizing the skin from its attachments to the deeper tissues where the dimpling was present

The small wound in the mucous membrane of the cheek was closed by a running suture of catgut and the skin incision over the zygoma was closed by a few interrupted sutures of silkworm gut

On the fourth day after the operation the skin sutures were removed Two days later slight swelling of the wound with a slight amount of oozing of serous secretion was observed The knot of the fascial strip had become necrotic and was lying free in the wound It was therefore removed A few days later the wound had closed A small hæmatoma appeared at the angle of the mouth where the skin had been mobilized but was absorbed after two weeks

EMIL C ROBITSHEK M D

Fry W K Fractures of the Mandible in and Posterior to the Molar Region *Proc Roy Soc Med* Lond 1929 xxii 663

Fractures of the mandible are becoming more frequent as the result of traffic accidents They may be caused also by the extraction of unerupted wisdom teeth In many cases the treatment is delayed Treatment should be given as early as possible In acute and subacute infection of the mandible splinting is of importance to prevent pathological fractures

The author calls attention to the frequency with which pathological fractures occur in osteomyelitis of the mandible This indicates the necessity of splinting in all cases of extensive osteomyelitis The diagnosis is made on the basis of deviation of the mandible from the midline to the affected side crepitus and the X ray findings The amount of displacement depends upon the line of fracture the presence of teeth on the smaller fragment with

EDITOR'S COMMENT

Fraser s discussion on minor orthopedics of the feet (p 146) is a helpful contribution upon a group of conditions to which too little attention is paid in school and hospital teaching What is minor surgery for the surgeon often looms large to the mind of the patient—a fact often forgotten by the surgeon engrossed in the consideration of major problems Ingrowing toe nail hammer toe, hallux valgus and march fractures are some of the conditions whose treatment Fraser de scribes clearly and succinctly

Garland s interesting presentation of some phases of the thymus problem (p 160) emphasizes the relative infrequency of thymic enlargement and the similarity of symptoms in patients dying with signs of status lymphaticus and those ob served in patients in shock resulting from an overdose of insulin Of 1 564 routine autopsies performed at the Massachusetts General Hospital Garland states that enlargement of the thymus was found in only 23 9 of the 3 were adults and 8 of the 9 suffered from hyperthyroidism In 3 cases observed by MacLean and Sullivan in which a diagnosis of status lymphaticus was made at autopsy blood sugar readings made a half hour before death showed a 50 per cent decrease from normal Garland concludes from this fact that the immediate cause of sudden death in this condition is probably adrenal insufficiency

Beaver s experimental study of cholecysto gastrostomy (p 124) brings out the interesting facts that union of the gall bladder with the stomach following double ligation and division of the common duct had no effect upon the acidity of the stomach contents in experimental animals and that such union was always followed by in fection of the liver and bile passages This study is of particular interest in connection with Walters report of the postoperative course of 17 cases with tricture of the hepatic and common bile ducts (p 124) In one of Walters cases with a stricture of the common duct distal to the entrance of the cystic duct, cholecystoduodenos tomy was performed with an excellent result but Walters states that the patient from time to time has periods of jaundice with fever and probably a residual cholangeitis In another case with a large anastomotic opening between the duct and the duodenum severe cholangeitis developed two or three months after the operation and though the acute symptoms of infection disappeared en largement of the liver and spleen persisted In a third case Walters was able in the presence of a complete stricture of the hepatic and common ducts to utilize the fistula leading from the he patic duct to the abdominal wall as the means of communication between the liver and duodenum

Frater and Braasch s discussion on the inci dence of stricture of the ureter (p 136) is an in teresting contribution upon a subject concerning which widely diverse opinions have been ex pressed The authors state that the caliber of the normal ureter, as determined with bulbs varies from No 8 to No 20 French and that the caliber of one ureter may be 50 per cent greater than that of the other without any other abnormal findings Because of these facts a diagnosis of stricture based upon obstruction to the passage of a sound or bulb larger than No 9 French is scarcely tenable The authors also state that they do not consider areas of lymphocytic infiltration about the ureter as diagnostic of stricture in the absence of other criteria Only 2 strictures were found by them in a series of 93 unselected cases in which the kidneys and ureters were carefully studied after death and neither of these was of in fectious origin

Weber s review of various types of endocrine tumors and the symptoms resulting from such growths (p 160) Eagleton s discussion on the localizing value of ophthalmic examinations in suppurative diseases of the brain (p 110) and Rosenthal s appraisal of the value of different methods for repairing palatal defects (p 105) are a few of many other interesting abstracts appear ing in this month s issue

NOSE AND SINUSES

Browder J Osteoma of the Frontal Sinus *Arch Otolaryngol* 1929 ix 297

The author reports a case of osteoma of the left frontal sinus Diplopia developed from the displacement of the eyes caused by the osteoma but vision remained normal

Under ether anæsthesia a circumlinear incision was made from the left anterior temporal fossa across the forehead along the hairline to the opposite side The flap including the periosteum was reflected downward and the thin external shell of bone removed The left supra orbital region was found entirely destroyed In the right sinus there was a mass of mucoid material Removal of the osteoma was followed by uneventful recovery Eighteen months later a mucocele of the right frontal sinus was operated upon successfully

GEORGE P MCAULIFF M D

Weill G The Relationship between Inflammation of the Posterior Sinuses and Disease of the Nervus Opticus *Arch Ophth* 1929 i 307

Contrary to the prevalent opinion Weill believes that neuritis retrobulbaris acuta is practically never associated with posterior sinusitis and therefore surgical intervention is not indicated The prognosis for the return of vision is good almost total restitution of vision occurring in 85 per cent of the cases The cause of the condition in Weill's opinion is a multiple sclerosis GEORGE R MCAULIFF M D

MOUTH

Rosenthal W The Pathology and Treatment of Defects of the Palate (Pathologie und Therapie der Gaumendefekte) *Forts f Zahnh* 1928 i 021

After discussing the very evident hereditary nature of malformations of the face the author reviews the new operative procedures for cleft palate the value of which is determined by whether they effect a narrowing of the mesopharynx and a widening of the soft palate without injury to the maxilla and the dental anlage

The procedure of Brown (separation of the palatal bones and union in the middle by a wire sling) must lead to transverse constrictions the formation of lateral fistulæ and enlargement of the anterior defects and cannot produce relaxation of the velum Brophy's operation is dangerous to life because it is performed in three stages and therefore requires three inductions of anæsthesia Moreover it causes injury to the tooth germs and disturbances of growth in the maxilla On the other hand the procedures which attempt to procure narrowing of the pharynx by separation of the pharyngeal musculature such as those of Kirkham and especially the procedure of Halle and Trost are serviceable even though the necessary multiple interventions the protracted duration of the treatment and the patency of the anterior defect resulting from the backward displacement of the palatal plates are disadvantages

According to recent statistics (Tschmarke Hohmeier) the functional and to some extent also the anatomical results of the simple Langenbeck operation are deficient Of advantage is the use of the muscoperiosteal covering of the vomer which is recommended also by Lexer The author approves of Lexer's method of covering the anterior angle of the cleft with the aid of flaps from the anterior covering of the palate and the mucous membrane of the intermaxillary bone in bilateral clefts and with the use of the covering of the septum in unilateral clefts but believes that the freshening and suture of the alveolar cleft should be replaced by orthodontic methods Special attention should be paid to the closure of the small deeply retracted anterior defect remaining after the operation for cleft palate as it often interferes with speech and allows the entrance of nasal secretion into the mouth For this defect the author has elaborated his own technique Lexer holds that in the Langenbeck operation the splitting up of the edges of the cleft in the interests of primary union is harmful By the use of the nasal mucous membrane which he separates with a goose necked scraper and turns back it is possible to avoid the lateral relaxing incisions Opening of the sutures in this operation is brought about either by streptococcus anginæ or by injury of the palatine artery from necrosis of the edge of the wound

The author again recommends his operation which as a result of the suturing of a wide flap of mucous membrane and muscle from the posterior pharyngeal wall into the soft palate immediately improves phonation and effectively narrows the pharyngeal defect by primary union

The decisive factor in the success of all cleft palate operations is the after treatment with speaking exercises for which the method of Engel is especially to be recommended The use of tutors especially the closed covering plates for protection of the palatal suture from the tongue is not found advisable because they favor the retention of wound secretions and in one case they led to septic polyarthritis and secondary hæmorrhage from the palate

The development and treatment of acquired palatal defects are discussed briefly and illustrated by instructive pictures For defects of the anterior quadrant of the hard palate flaps of mucous membrane from the upper lip are used For lateral defects flaps of mucous membrane of the cheek are employed sometimes with resection of the adjoining alveolar process in order to make it possible to double the transplanted flap with the aid of the edges of the defect For transverse defects the Thiersch procedure of reflecting a flap formed from the whole cheek in the nasolabial fold is recommended For median defects the use of the covering of the adjoining palate is advisable but in such cases the use of an obturator is occasionally indicated SIEVERS (Z)

occluding teeth on the maxilla and the amount of loss of bone The general principles underlying the treatment are correct alignment reduction of sepsis and immobilization of the fragments Dental splints should be fitted as early as po ible to immobilize the fragments and thereby relieve the pain reduce the danger of sepsis and allow the patient to take food more easily Early surgical intervention by wiring or plating is contra indicated Reduction of sepsi may be accomplished by constant irrigation efficient drainage and the removal of septic teeth and teeth in the line of fracture Splinting is used to aid the reduction of the displacement and to immo bilize the parts Immobilization is obtained by means of bandages and external supports inter dental wiring (of which there are four varieties) or dental splints JOHN H GARLOCK M D

EYE

Key B W A Case of Trichinosis with Exophthal mos *Arch Ophth* 1929 xii 178

Key reports the case of a patient who developed acute bilateral orbital œdema and unilateral exoph thalmos suggesting orbital cellulitis marked œdema and discoloration of the face lids and conjunctiva visual disturbances cardiac irritability pain in the large muscles a temperature of 104 5 degrees F and eosinophilia The trichina spiralis was found in a sec tion which was taken from the deltoid muscle Treatment resulted in complete recovery

THOMAS D ALLEN M D

Denig R Circumcorneal Transplantation of Buc cal Mucous Membrane as a Curative Measure in Diseases of the Eye *Arch Ophth* 1929 i 351

The author recommends circumcorneal trans plantation of mucous membrane from the mouth as a curative measure in such diseases of the eye as trachomatous pannus scrofulous pannus torpid and dystrophic keratitis and herpes It has been u ed with gratifying results also in burns due to ammonia lime or acid The beneficial effect seems to be due to improvement in the nutrition of the cornea

The diseased conjunctiva is removed the sclera thoroughly cleaned off and the mucous flap from the mouth then sutured in place Both eyes are bandaged for five days and the sutures are removed after from ten to twelve days The flap may be re moved later GEORGE R MCAULIFF M D

EAR

Mandelbaum M J The Diagnostic and Thera peutic Value of Iodized Oil in Chronic Purulent Otitis Media and Chronic Mastoiditis *La ryn goscope* 1929 xxxix 156

Since it was proved that iodized oil will penetrate all of the mastoid cells and that the iodine exerts a beneficial effect on the diseased deep structures the author has used iodized oil with considerable success in more than twenty cases of chronic otitis associated with subacute and chronic ma toidit s of varying degree or acute exacerbations of chron mastoid itis

He emphasizes that in acute mastoiditis and in chronic cases with acute exacerbations definitely in dicating operative interference the use of the o is not to be considered

In several cases with recurrent attacks of mastoid pain and discharge after mastoidectomy the iodized oil revealed unremoved mastoid cells and brought about temporary cessation of the pain and discharge

JAMES C BRASWELL, J D

Gottlieb M J Lesions of the Cochlea Experi mentally Produced in Guinea Pigs by Injecting Fæcal Extract from Cases of Progressive Deaf ness Preliminary Communication *Laryn o scope* 1929 xxxix 113

The author believes that the cause of progressive deafness is a toxin carried by the circulating blood In support of this theory he cites the findings of experiments in which he injected fæces from four deaf persons and three persons with normal hearing into guinea pigs Faces obtained following the administration of a cathartic were beaten with from 400 to 500 c cm of normal saline solution containing 0 25 per cent of phenol and then plated in an ice chest for twenty four hours The mixture was stirred daily for from eight to ten days At the e d of that time it was centrifugalized and the super natant fluid was cultured If a growth was obtained the fluid was sterili ed The injections were given ubcutaneously On the conclusion of each experi ment the animal was killed and the temporal bones were removed from the skull In the case of three animals hæmorrhagic lesions in the cochlea and hæmorrhages into and around the nerves and into the dura were found These lesions were not pro duced in the control animal

EARLE I GREENE M D

Ivy A C The Physiology of Vestibular Nystag mus *Arch Otolaryngol* 1929 ix 123

As a re ult of stimulation of the non acoustic labyrinth compensatory movements of the eyes occur These consist in a slow movement called de viation and a quick movement in the opposite direction called nystagmus The deviation of the eyes is due entirely to stimulation of the labyrinth The nystagmus is probably due to a reflex occurring by way of the muscle centers of the eyes and initiated by the stimulation of kinesthetic sensory nerve end ings in the muscles of the eyes The cerebrum main tains an inhibitory control of the reflex

The author accepts the theory of Maxwell that the cristæ of the ampullæ are stimulated by changes in tension of the utricular membrane caused by inertia effects in the larger bodies of fluid in the vestibule and utriculus He states that in man and the dog fish there is a correlation between the type of nystagmus that results from rotation in the various visual planes W M PATON M D

tion leads to carcinoma In the cases of syphilitics and smokers hygienic care of the mouth is especially important as prophylaxis against cancer Cancer of the tongue is a disease which is chiefly found in males

In the differential diagnosis decubital ulcer and syphilitic ulcer must be ruled out Syphilitic ulcer may undergo carcinomatous degeneration

Cancer of the tongue occurs in three forms The most frequent form is the squamous celled cancer with horny pearls (90 per cent of all cancers of the tongue) proceeding from the mucous membrane Basal cell cancer is rarer and reacts well to radium The most unfavorable prognosis is that of the third form intralingual cancer which grows from the glands under the mucous membrane extending by infiltration out from the deep parts of the tongue

A positive Wassermann reaction does not prove that only syphilitic infection is present Therefore in doubtful cases too much time should not be lost with cauterizing the histological nature of the lesion should be promptly determined by biopsy since early diagnosis is the most important factor in the treatment When the floor of the mouth is already attacked the cancer of the tongue has become fixed and the lymph glands are involved the patient is usually lost As biopsy often acts as a powerful stimulus to the growth of the cancer the frozen section should be examined immediately and action in accordance with the findings should be taken without delay

In the treatment of leucoplakia in the initial stage it is a matter of first consideration to avoid all measures that would injure the delicate epithelium of the tongue Examination and treatment of the teeth are advisable In the stage of induration operative or radiotherapeutic measures are in place In the treatment of frank lingual cancer the localization and extent of the lesion should be first carefully determined so that an opinion can be formed as to the prognosis offered by the different methods that may be used It is important to know whether or not the glands are involved The early appearance of gland involvement is explained by the large number of lymph vessels and the numerous anastomoses between the submaxillary carotid and clavicular glands Since about 70 per cent of recurrences come from the glands the cervical glands should be included in the treatment from the first

The three weapons of present-day medicine against cancer of the tongue are operation roentgen irradiation and radium therapy Operation for cancer of the tongue as for all intra-oral carcinomatas gives unsatisfactory end results In the first place by far the greater number of lingual cancers are inoperable when the patient comes for treatment partly because they are too far advanced and partly because of complicating infections and advanced metastases Of the operable carcinomatas only about 10 per cent are permanently cured

Cancer of the tongue is refractory to present-day roentgen technique The destructive power of the roentgen dose is less than the resistance of the epidermoid cells of tongue cancer which are particularly insensitive to the rays Hence in the opinion of leading roentgenologists roentgen treatment of cancer of the tongue is unpromising

Regaud and Lacassagne have reviewed 275 cases of cancer of the tongue treated with radium during the period from 1920 to 1925 with a cure in 133 (48 per cent) In 89 (66 9 per cent) of the latter the condition was inoperable Fifty six patients died from the gland tumor Seventy seven patients have been free from carcinoma for from one to six years and 36 for three years The direct aims of radium treatment are (1) inclusion of the entire threatened field in the cytolethal dose (2) vitalization of the tumor bed and (3) toning up of the entire organism The author describes the therapy aimed at these three objectives under the term three phase treatment

The technique of radium irradiation is next discussed There is a choice of three methods protracted contact irradiation intratumoral treatment and extra-oral irradiation from a distance The details must be read in the original Provided no distant metastases are demonstrable the treatment of gland metastases is best preceded by a preliminary irradiation A primary surgical operation is contraindicated because of the danger of disseminating tumor cells thereby From six to eight weeks after the irradiation operation may be performed in the radium sterilized region It should consist in the removal of all of the cervical glands For this purpose the thermocautery and electrocoagulation have been used successfully in place of the knife Postoperative irradiation does not have the same advantages as primary preoperative irradiation The author designates radium irradiation as at present, the treatment of choice for primary cancer of the tongue

ZELLNER (Z)

PHARYNX

Polvogt L M and Crowe S J Organisms in Cultures from Tonsils and Adenoids *J Am M Ass* 1929 xcii 962

The authors report investigations undertaken to determine the predominating organisms deep in the tonsillar crypts to discover whether organisms recovered from patients with a general systemic disorder differ from those recovered from patients with only local symptoms and to investigate the carrier state

In the tonsils and adenoids of 91 of 100 patients the hæmolytic streptococcus was the predominating organism and in those of 9 patients the staphylococcus predominated The streptococcus predominated in children but in adults the staphylococcus was more common

The authors state that a culture made by swabbing the surface of the tonsils is a reliable index of the organism predominating in the crypts

GEORGE R MCAULIFF M D

Kellaway C H Some Bacteriological Aspects of Apical Infection in Its Relation to General Disease *Med J Australia* 1929 1 234

The occasional definite and striking clinical findings which indicate a relationship between dental infection and various systemic lesions should not lead to the conclusion that all dental infections are actually or potentially dangerous

In experiments on dogs the author attempted to cause localization in the teeth of streptococci from the blood stream by aseptic destruction of the tooth pulp followed by the intravenous injection of large doses of streptococci In only one instance did localization occur about the apices of teeth with damaged pulps and in this case organisms other than those injected were also present

In some investigations it has been found that the organisms at the apex of an infected tooth are identical with those present in the saliva Infection by way of the open pulp canal or through the canals in the dentine following injury of the enamel is much more direct than infection by the hæmatogenous route and if periapical infection occurs in this way every pulpless tooth will become infected However if the organisms at the apex of a pulpless tooth are identical with those in the mouth it is difficult to understand how, in such relatively small numbers they are able to give rise to lesions specific to a particular tissue unless that tissue has become peculiarly susceptible to the assaults of the organism

The author concludes that while Rosenow s findings in animals with regard to elective localization are suggestive they cannot be regarded as convincing evidence of the pathogenicity of streptococci similarly isolated in man

CHARLES W FREEMAN M D

Wassink W F The Treatment of Carcinoma of the Tongue (Behandlung von Zungenkrebs) *Ned rl Tijdschr v Geneesk* 1928 II 4186

After reviewing a large number of cases of carcinoma of the tongue the author describes the treatment that is given in his clinic

The primary tumor is removed in the usual way but sometimes less thoroughly than was formerly believed necessary reliance for its complete eradication being placed on the postoperative use of radium In this way cases which are inoperable are rendered operable The irradiation of the wound is done in every direction In all cases in which glandular swellings are palpated an extensive resection of the cervical lymph glands is done even when in the macroscopically radical removal of the tumor only one carotid and one vagus can be saved When this procedure is impossible radium treatment is given in order to take advantage of the slightest chance that the tumor may be particularly sensitive to radium Lymph glands which are not palpable are given a prophylactic X ray irradiation and regularly examined thereafter for evidences of metastasis The operations are performed exclusively under local anæsthesia At first the electrical cautery was used, but more recently diathermy has been employed exclusively The advantages of diathermy are described As a rule this treatment renders accessory incisions and temporary resections of the jaw superfluous

The primary tumor is treated with radium only when operation is refused Treatment by operation and radium irradiation is followed by less severe or prolonged pain than exclusive radium treatment The combined treatment has the further advantage that it permits closer application of the radium to the tumor Whenever possible the entire irradiation is given in a single dose Gold (1½ mm) which is permeable to only the hardest gamma rays is used as a filter

The irradiation of distant glandular metastases is done in two stages the first one week and the second from four to six weeks after the operation

The author has never seen a local recurrence following this treatment Of forty two patients 66 per cent were alive and free from recurrence from two to seven and a half years after the operation Twelve have survived for three years and nine for five years In statistics published by others which include cases treated only by operation or only by irradiation the incidence of similar results ranges from 30 to 60 per cent

Radium therapy seems to be able to destroy the primary tumor but fails to destroy the metastases. X ray therapy is without effect Only the results obtained at Radiumhemmet in Stockhom approach or perhaps surpass those obtained by the author A similar combined treatment is given at Radiumhemmet

The author emphasizes the importance of supplementing surgery with irradiation and believes that the combined use of diathermy irradiation and surgery represents a definite advance in the treatment of carcinoma of the tongue JACOBS (Z)

Lazarus P Cancer of the Tongue Prophylaxis and Radium Treatment (Der Zungenkrebs und seine prophylaktische wie Radiumbehandlun) *Zischr f aer tl Fortb ld* 1928 XXV 477

The author first points out that in cancer of the tongue which is clinically the most malignant and the most difficult to treat of all cancers the most promising field i prophylaxis A third of all cancers of the tongue originate on the basis of leucoplakia and leucoplakia has its origin most often in syphilis or nicotinism Syphilis which can be demonstrated in from 60 to 80 per cent of persons attacked with cancer of the tongue lowers the resistance of the mucous membrane to chemical and mechanical irritations The carbolic acid in tobacco juice is particularly responsible for the change in the mucous membrane of the tongue About 40 per cent of patients with tongue cancer are heavy smokers and there appears to be an analogy between smokers (pipe) cancer and experimental tar cancer It is therefore wrong to take leucoplakia too lightly for in almost one third of the cases leucoplakic indura

Hæmorrhage especially from the superior thyroid artery is always a danger To prevent slipping of the ligature on the superior thyroid artery Seabrook recommends transfixation of the superior pole with a double ligature To prevent the subsequent opening of unrecognized collapsed blood vessels he allows the patient to awaken before closure of the wound The return to consciousness induces straining and coughing which will cause such a vessel to bleed permitting its recognition and ligation In 20 of the 2 200 cases reviewed it was necessary to reopen the wound to check bleeding In 13 cases the oozing was so difficult to control that the incision was left open and packed closure being delayed until the next day Two deaths were attributed to hæmorrhage One was that of a patient with a carcinoma of the thyroid The danger of bleeding is due not so much to the loss of blood as to the pressure of the clot upon the trachea

The author reports that mild and transient postoperative tetany has not been rare in his experience but in only 3 or 4 cases have generalized convulsions and mental disturbances developed He attributes the tetany to (1) the removal of one or several parathyroids (2) interference with the blood supply of the parathyroids by œdema and (3) disturbance of the blood calcium with consequent alkalosis due to prolonged vomiting As he has found parahormone to exert only a temporary effect he recommends the intravenous administration of 10 c cm of 1 5 per cent solution of calcium chloride In mild cases he has used cod liver oil with success Tetany has usually followed total thyroidectomy which the author formerly performed for malignancy In recent years he has found that radium irradiation gives as good results in malignancy as surgery and is never followed by tetany

Unilateral injury of the recurrent laryngeal nerve occurred in a number of cases reviewed and bilateral injury in 3 cases A report is made of an anatomical dissection showing the passing of the recurrent laryngeal nerves above the normal thyroid gland Anastomosis of the descendens hypoglossi and the severed end of the recurrent nerve according to Frazier was done in 5 instances but without benefit Laryngeal fissure with removal of the vocal cords was tried but the benefit was only temporary as granulation tissue eventually blocked the air way Tracheotomy is the best prodecure until complete paralysis or a cadaveric position permits sufficient air way

Embolism was an important complication It occurred in 6 of the author s cases and was fatal in 5 In 4 cases it was cerebral in 1 pulmonary and in 1 it occurred in the superior mesenteric artery

Auricular fibrillation occurred in 2 of the fatal cases of embolism and in every case the heart was widely dilated The one patient who recovered had a normal blood pressure while the others had marked hypertension Seabrook agrees with Lewis that the emboli are the small clots which are formed during marked stagnation of the blood in the auricular recesses of a poorly functioning decompensated heart and dislodged into the general circulation with improvement of the heart action

Pneumonia is a less dangerous condition since the oxygen tent has been used Seabrook reports a case in which the use of the oxygen tent was probably a life saving measure

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Severe exophthalmos demands painstaking care lest partial or complete blindness result As a rule however recession begins within a few days after operation JOHN H WOOLSEY M D

NECK

Rosenberg L. C. Roentgen Treatment of Acute Cervical Lymphadenitis *Am. J. Dis. Child.* 1929, xxxvii, 5-9.

On the basis of reports of favorable results obtained by roentgen treatment in various acute and chronic inflammations the author treated eighty cases of acute cervical lymphadenitis by this method. All of the patients were under seven years of age and in every instance the disease was secondary to an infection of the upper respiratory tract. Cases due to buccal infection, carious teeth, scalp infections, eczema, retropharyngeal abscess, tuberculosis of the glands, or infectious mononucleosis were excluded. The inflammation occurred in the superior deep cervical nodes and was considered potentially suppurative. Mild cases were excluded. No auxiliary treatment of any kind was given, reliance being placed entirely on the irradiation.

The average dose was 20 per cent of one skin unit dose on the surface with the use of from 150 to 180 kv., a filter of ½ mm. of zinc or copper plus 3 mm. of aluminum and a focus skin distance of 30 cm. As a rule the younger the child or the more acute the inflammation the smaller the size of the dose. When required a second treatment was given after an interval of from five to seven days.

Twelve of the patients developed suppuration, but in the sixty-eight others (85 per cent) the inflammation subsided completely without surgical treatment. There was no unfavorable effect from irradiation.

When the irradiation is given by the third or fourth day of the infection the inflammation will usually subside. Every day that the treatment is deferred lessens the chance of recovery without suppuration. There is either a rapid retrogression or a rapid breakdown of the inflammatory area. The irradiation greatly shortens the course of the condition, relieves the pain, and when suppuration occurs, reduces surgical intervention to the minimum.

The author reports several of his cases in detail and tabulates all of them with regard to the patient's age and sex, the presence or absence of the tonsils, and the results. He believes that roentgen irradiation is the most successful treatment of acute cervical lymphadenitis. — ADOLPH HARTUNG, M.D.

Shaw, R. C. The Cervical Sympathetic and Its Relation to the Thyroid Gland in Exophthalmic Goiter *Brit. M. J.* 1929, i, 49.

Exophthalmic goiter has been treated surgically directly by operations on the thyroid and indirectly by operations on the sympathetic. Both types of operations have yielded amelioration of the symptoms or a cure. Chaher in 1926 reported a series of nineteen cases of cervical sympathectomy for toxic goiter. Three of the patients were cured, nine were greatly benefited, six were slightly benefited, and one developed a recurrence. The author reports eleven cases of exophthalmic goiter treated by partial thyroidectomy or ligation of the thyroid vessels. Four of the patients were cured, two were benefited, four were not benefited, and one died. Shaw concludes that the syndrome of exophthalmic goiter can be definitely relieved or cured by partial thyroidectomy or by excision of the right and left superior cervical sympathetic ganglia and sufficient of the cervical sympathetic cord to include the middle cervical ganglia.

From two cases of exophthalmic goiter treated by cervical sympathectomy he deduces that this treatment has a three-stage effect: (1) an immediate increase in the symptoms, (2) a decrease in the basal metabolic rate and a diminution of the hand tremor, and (3) general amelioration of all of the symptoms.

The effect of sympathectomy on the exophthalmos is uncertain. Exophthalmos due to spastic retraction of the eyelids is improved, but exophthalmos due to projection of the ocular globe as a whole shows little or no change.

Examination of the extirpated ganglia showed granular degeneration (atrophy) of the nerve cells, an increase of connective tissue, and hyperpigmentation.

Shaw considers cervical sympathectomy suitable in cases in which cardiac derangement prevents direct thyroid surgery.

Authorities have stated that the superior and middle cervical sympathetic ganglia furnish the entire nerve supply of the thyroid gland, but in the examination of six adult bodies and five fetuses the author found that the inferior cervical sympathetic ganglion of each side also has a communication with the thyroid gland. The variations in the position and anatomical course of the communication are described as follows:

1. The communication may arise as one or two delicate nerves from the inferior ganglion. On the left side it passes inward and downward and then doubles back along the course of the recurrent laryngeal nerve to be distributed to the postero-inferior aspect of the left lower pole of the thyroid. On the right side it frequently anastomoses with the right recurrent laryngeal nerve close to its origin and eventually leaves it to be distributed to the postero-inferior aspect of the right lower pole of the thyroid.

2. The communication may arise from the sympathetic cord between the two lower ganglia with a distribution similar to that just described.

3. On the left side filaments may arise from the middle and inferior ganglia and connect with the left recurrent nerve where they are distributed both upward and downward. The former may then be traced into branches to the thyroid gland.

As all sympathetic supply to the thyroid crosses the inferior cervical ganglion, removal of the latter should be sufficient. — JOHN H. WOOLSEY, M.D.

Seabrook, D. B. Postthyroidectomy Complications and Sequelæ *Northw. Med.* 1929, xxviii, 111.

Seabrook discusses some of the complications and sequelæ of 2,200 operations upon the thyroid gland performed at the Portland, Oregon, clinic.

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SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Eagleton W P The Localizing Value of Ophthalmic Examinations in Suppurative Diseases of the Brain *J Am M Ass* 1929 xcii 713

In suppurative diseases of the brain the author has found *repeated examinations of the visual fields* to be of localizing value He proposes to show that œdema of the brain an accompaniment of septic conditions abscess and infarcts may be diagnosed early from hemianopic indentations of the fields, that the presence or absence of papilloedema may be of localizing value in suppurative diseases of the brain provided the nature of the lesion is considered that localized meningitis of the bulbar cistern presents a syndrome consisting of posterior and middle fossa symptoms with bitemporal hemianopic indentations associated with a peculiar type of semistupor and sixth nerve paralysis and that oculomotor group dysfunctions may be studied through their connection with the vestibular apparatus

The development of the eye and the relation of vision to motion and of motion to color are reviewed In the eye motion and vision are one at the extreme periphery *In suppurative diseases of* the brain the physiological factor of motion as related to vision is of diagnostic importance for it is in the peripheral part of the field that central visual disturbances are first manifested Such defects disturbances of ocular mobility and abnormalities of induced nystagmus are frequently of importance as localizing evidence of suppurative disease of the brain The central visual tract is especially susceptible to œdema and the vestibular mechanism is affected by an increase in intracranial pressure *whereas the oculomotor nerves are affected only by* direct pressure

A syndrome consisting of a cold in the head swelling of the nerve head central scotoma and pain on pressure upon the eye and during ocular movements was observed in the only three cases in which the immediate result of opening the sphenoethmoid sinuses was sufficient to warrant the belief that nasal sinus suppuration was the cause of failure of vision In the presence of such a syndrome opening of the sphenoid is indicated even in the *absence of other findings* neurological or roentgenological The pain on pressure upon the eyeball and upon ocular movement is emphasized as it is often overlooked Papilloedema may have a localizing value as it may originate in different ways *In brain* tumor it results from a slow general increase in the intracranial pressure In abscess, the intracranial pressure may be greatly increased by œdema of the brain although the ventricles are collapsed and the cerebrospinal fluid pressure is not increased When the œdema involves the optic tract within the brain evidence may appear in the nerve head It is this cerebral œdema which causes *the hemianopic indentations* of the fields Such fields may show rapid change and the indentations may precede other localizing signs by days or even weeks The defects are often unknown to the patient They are due not to direct pressure upon the optic tract but to œdema of the cerebral substance involving the tract Convulsions and transient paralyses may also be due to such an œdematous condition

Paralysis of the oculomotor nerves on the other hand is due to direct pressure upon the nerves. Paralysis of the *third nerve develops in the terminal* stage of meningitis when an inflammatory exudate fills the subarachnoid spaces The fourth nerve is not so exposed as the third nerve An isolated paralysis of the fourth nerve should indicate suppuration in the posterior fossa near the midline The sixth nerve is more exposed than either of the others and may be attacked at any one of several points along its course Isolated paralysis of the sixth nerve is of little localizing value All of the nerves may be attacked in the cavernous sinus A localized bulbar *cisterna meningitis may be diagnosed from* middle fossa symptoms followed by symptoms arising in the posterior fossa and bitemporal field defects The middle fossa symptoms are headache pain behind the eyes and irregular contractions of the fields The posterior fossa symptoms are nystagmus and stiff neck When to this syndrome there is added a unilateral or bilateral sixth nerve paralysis the petrous tip and bulbar cistern should be explored

The oculomotor apparatus showing dysfunction should be examined as a whole rather than as individual *muscles* This is best done by a study of the vestibular apparatus by turning and caloric tests

GILBERT C ANDERSON M D

***Brodie F* Delayed Subdural Haemorrhage** *Canadian M Ass J* 1929 xx 273

Brodie reports four cases of subdural hæmatoma The cause of the condition is usually a trivial head injury sustained in the frontal or occipital regions After the injury there is a period in which symptoms are absent or slight Later severe symptoms develop These include headache usually constant and becoming progressively worse often referred to the affected side and sometimes accompanied by vertigo alteration in mentality such as amnesia slow *cerebration and confusion ophthalmic* damage varying from congestion to extensive retinal hæmorrhages and abnormality of the cerebrospinal fluid

The author emphasizes the importance of early diagnosis and operation ERIC OLDBERG M D

Helle B Continuous Drawing Off of the Cerebrospinal Fluid in Hydrocephalus with Results of Healing In of Implants (Zur Dauerableitung des Liquors bei Hydrocephalus mit Einheilungsresultaten der Implantate) *Beitr z klin Chir* 1928 cxlv 1

The author presents a historical review of the various therapeutic methods used in hydrocephalus particularly methods of continuous drawing-off of the cerebrospinal fluid and then reports his own experience in the treatment of the condition over a period of twenty four years

Hydrocephalus may be divided into two types the obstructive and the communicating according to whether the cerebrospinal fluid remains enclosed in the ventricles of the brain or passes out of the ventricles into the cerebrospinal canal of the cord The form to which a case belongs may be demonstrated by injecting air directly through the ventricle or through the cisterna by lumbar puncture or by roentgenoscopy of the ventricles after the injection of ascending iodipin into the spinal canal

In the treatment of the author s cases the fluid was drawn off into the thoracic or abdominal cavity or the bladder When it was drawn off into the abdominal cavity the route was paravertebral from the lumbar canal Three times a silk suture wick was used once a transplanted vein and five times an implanted rubber drain With the rubber drain drainage was obtained for a definite length of time but after about a year marked proliferation of connective tissue occurred in the vicinity which prevented further drainage and buried the rubber drain The drain however may remain unchanged for as long as eight years Accordingly for continuous drawing-off of the cerebrospinal fluid in cases of increasing pressure on the brain and an enlarging communicating hydrocephalus the best method seems to be drainage of the cerebrospinal fluid into the urinary bladder by means of a ureterodural anastomosis In obstructive hydrocephalus from cicatrization inflammation or tumor a causal therapy must be considered The author comes to the following conclusions

1 In communicating hydrocephalus continuous drainage appears to be assured by ureterodural anastomosis

2 In obstructive hydrocephalus the obstruction can sometimes be removed by operation

3 The most successful method of reducing the secretion of cerebrospinal fluid consists in repeated puncture combined with roentgen irradiation of the choroid plexus and the surface of the brain

4 By repeated puncture and roentgen irradiation it is sometimes possible to transform a progressive into a quiescent hydrocephalus This explains the apparently successful results of all previous methods of drawing off the cerebrospinal fluid which were able to establish drainage for only a short time because the escaping fluid caused inflammatory changes in the tissues which finally obstructed the outflow

5 Our aim must therefore be the early transformation of a progressive into a resting hydrocephalus In the treatment of spina bifida simultaneous hydrocephalus must be borne in mind

6 Selected cases of epilepsy with demonstrable hydrocephalus can be favorably influenced by relief of the hydrocephalus and roentgen irradiation

The appendix to the article contains the histories of three cases of hydrocephalus with epileptic attacks in adults and one case of acquired hydrocephalus microscopic reports on a rubber tube overgrown with connective tissue which led from the fourth ventricle to the pleural cavity in a man and on a healed in ureter connected with the subdural space in a dog a report on the operative procedure for the continuous drawing off of the cerebrospinal fluid in hydrocephalus into (1) the abdominal cavity by the paravertebral introduction of a rubber tube a vein a hardened calf s artery or a silk suture wick (2) the thoracic cavity and (3) the bladder by connecting the bladder with the lumbar dura and the procedure used in obstructive hydrocephalus

SONNTAG (Z)

Spasokukockij I Conservative Treatment of Chronic Brain Abscesses by Puncture (Ueber die konservative Therapie der chronischen Hirnabscesse mittels Punktionen) *Věstník Chir* 1928 xiii 29

On the bases of four cases the author recommends repeated puncture in the treatment of brain abscesses He states that trephining has a number of disadvantages namely great traumatization of the brain substance the possibility of subsequent infection and injury of the granulations during changing of the packing Puncture of the brain abscess on the other hand is a non traumatizing operation if it is done properly Too much suction must be avoided The first few drops of blood must be considered a sign of too much negative pressure and on their appearance the suction should be stopped To equalize the pressure the author recommends the injection of 0 1 per cent rivanol solution

Autovaccination and pyotherapy may also be of value in some cases Of the author s four patients three were discharged with a good result In the case of one patient who died after eight months only a shrunken pyogenic membrane and no trace of pus could be demonstrated at the site of puncture One patient died after two months but even in this case the punctures were at first followed by improvement

SILBERBERG (Z)

Davis L The Blind Spots in Patients with Intracranial Tumors *J Am M Ass* 1929 xcii 794

Davis states that as the disk swells it displaces the adjacent retina laterally and throws it up into small folds with consequent enlargement of the blind spot Receding œdema causes the blind spot to recede toward the normal Blind spot records have been found of value in following the increase or decrease in papilloedema produced by changes in intracranial

pressure due to tumors The findings in 105 cases of brain tumor and 50 normal controls are recorded

In all of the cases of brain tumor the blind spots were plotted several times before being photographed for the hospital records both before and after operation This method is deemed more accurate than measurement of diopters of elevation its value increases as the disk becomes flattened By means of it the value of palliative decompression in cases regarded as inoperable has been clearly demonstrated GILBERT C ANDERSON M D

Weber F P The Association of an Extensive Hæmangiomatous Nævus of the Skin with a Cerebral (Meningeal) Hæmangioma Especially Cases of Facial Vascular Nævus with Contralateral Hemiplegia *Proc Roy Soc Med Lond 1929 xxii 431*

The author reviews seventeen cases showing a relationship between capillary nævi of the skin especially of trigeminal distribution and contralateral spastic hemiplegia developing early in life The article contains roentgenograms demonstrating chiefly the calcification which may occur in meningeal hæmangioblastomata ERIC OLDBERG M D

Dandy W E An Operation for the Cure of Tic Douloureux Partial Section of the Sensory Root at the Pons *Arch Surg 1929 xviii 687*

The author reviews the history of the surgical treatment of tic douloureux and the results obtained in eighty-eight cases treated according to his new technique Dandy makes a unilateral suboccipital approach to the roots of the trigeminal nerve as they leave the pons This is accomplished by emptying the cisterna magna and retracting the cerebellum In reaching the fibers of the trigeminal nerve care is taken to avoid injuring the acoustic nerve and the petrosal vein Dandy states that this procedure is easier and quicker to perform than the temporal operation because the route is bloodless

There was one death in his series due to hæmorrhage from a vein along the sensory root Three patients died of intercurrent diseases while they were still in the hospital One died of meningitis a week after the operation one of intestinal obstruction and one of cerebral thrombosis

In the beginning the author cut the entire sensory root leaving the motor root intact Later he began to do a differential section leaving in addition to the motor root a few anterior fibers Even in the earlier cases in which he practiced section of the entire root a varying amount of touch and temperature sensation was frequently retained although pain sensation was invariably lost Dandy believes this retained sensation was due to a number of sensory fibers accompanying the motor root which join the main sensory root outside of the dura

When partial section of the root is carried out the sensation over the entire face approaches the normal after the operation but the pain is cured irrespective of the branch originally involved The author therefore believes that pain sensations are carried in the posterior part of the sensory root He is convinced also that the peripheral branches of the trigeminal nerve are not accurately represented by subdivisions of the sensory root

Another interesting conclusion is that the trigeminal nerve carries deep sensations of the face Postoperative keratitis which practically never occurred in the cases reviewed even when the whole sensory root was cut is attributed by Dandy to injury of the gasserian ganglion in the temporal operation Lachrymation continues after section of the trigeminal sensory root

The author's method is the only one applicable to cases of trigeminal pain due to invasion of the gasserian ganglion by a malignant growth.

In one of Dandy's cases in which there were no other symptoms than tic douloureux at the time the patient entered the hospital an unsuspected tumor of the cerebellopontile angle was found and successfully removed LEO M DAVIDOFF M D

SPINAL CORD AND ITS COVERINGS

Zeno A and Cames O The Immediate Results of an Operation for Syringomyelia (Resultats immediats d'une operation pour syringomyelie) *Bull et mém Soc nat de chir 1928 liv 1437*

The patient whose case is reported was a laborer twenty seven years of age The operation for syringomyelia consisted in laminectomy and evacuation of the fluid in the spinal canal into the subarachnoid space through a small incision between the columns of the cord Distinct improvement followed

HARTMANN who reported this case before the Society questions whether the improvement in this case and three others operated upon in the same way will be permanent This case has been followed for only three months He is of the opinion that even if the improvement persists the patients will remain invalid as the muscle and tendon retractions will persist As syringomyelia does not endanger life unless it is bulbar in which case operation is scarcely possible and as in institutions such as the Salpêtriere there are patients with syringomyelia who have been there for thirty years Hartmann doubts whether persons with syringomyelia should be subjected to the dangers of laminectomy He believes it better to begin with deep roentgen therapy as was done by Zeno and Cames as this treatment sometimes causes considerable improvement AUDREY G MORGAN M D

PERIPHERAL NERVES

Blondin M New Experimental and Clinical Facts with Regard to Nerve Grafts (Contribution à l'etude des greffes des nerfs nouveaux faits cliniques et expérimentaux) *Presse méd Mar 1928 xxxvi 1322*

Blondin reports six clinical cases in which a fresh nerve graft taken from a living dog was used

The first was a case of accidental section of the median nerve at the wrist The introduction of the heterograft (5 cm long) two months later resulted in restoration of the motor function of the thenar muscles The patient was followed up for fifteen months

In the second case resection of the median nerve was done for neuroma and a heterograft 10 cm long was introduced Two and a half years later beginning regeneration was noted

In Case 3 there was complete accidental section of the median nerve at the elbow with section of the brachial artery At operation six and a half months later secondary resection of the median nerve was done and a heterograft 10 cm long was introduced Movement was restored in the entire area supplied by the median nerve The patient was followed up for three years

In Case 4 resection of the ulnar nerve was done for glioma The introduction of a heterograft 10 cm long was followed by restoration of movement The patient was followed up for six years

In Case 5 there was complete accidental resection of the radial nerve At operation ten months later secondary resection of the nerve was done and a heterograft introduced At the end of four months electrical stimulation revealed beginning regeneration

Case 6 was a case of old section of the external popliteal nerve from a war injury At operation performed eight years later a heterograft 11 cm long was introduced Two and a half years after the operation there was beginning regeneration

The observation time in Case 5 is too short for definite judgment regarding the outcome of the treatment In three (60 per cent) of the other cases the result was good and in two (40 per cent) the operation caused slight improvement There were no failures

Of twenty cases in which autografting was done at the surgical clinic of La Salpêtriere the result was good in seven (35 per cent) mediocre in nine (45 per cent) and a failure in four (0 per cent) In both of two cases in which dead Nageotte hetero grafts were used the operation failed

The author demonstrated the excellence of fresh heterografts also in experiments in dogs He re sected a part of the dog s sciati nerve and grafted a piece of the sciatic nerve of a rabbit Histological examination showed complete regeneration through the graft which seemed to have acted as a guide for the newly formed fibers There was no trace of de generation in the proximal segment of the sciatic nerve The neurotization followed the graft aberrant axis cylinders being very few The only inflammatory reaction was very slight and localized around the silk sutures

Blondin states that nerve grafting is indicated in all cases in which it is impossible to suture the ends of a nerve under favorable conditions after trau matic section or section for tumor Grafts as long as 15 cm may be used The graft should be quite large for if it is too small the nerve fibers become lost around it The operation should be delayed until all signs of suppuration and inflammation have dis appeared Successful grafting may be performed years after an injury AUDREY G MORGAN M D

SYMPATHETIC NERVES

Asami G A Contribution on the Pathological His tology of the Sympathetic Ganglia (Beitrag zur pathologischen Histologie der sympathischen Gan glien) *Arch f japan Chir* 1928 v 1048

A histological study was made of thirty cervical and lumbosacral ganglia removed at operation in four cases of bronchial asthma five cases of idio pathic epilepsy five cases of intermittent claudica tion seven cases of spontaneous gangrene one case of Raynaud s disease two cases each of sacral neu ralgia and fistulous tuberculosis of the ankle and one case each of chronic osteomyelitis of the femur spastic hemiplegia after injury of the parietal lobe and posthemiplegic athetosis All of these cases were operated upon since the year 1925

In vasomotor disturbances such as Raynaud s disease spontaneous gangrene and intermittent claudication Ito does a resection of the lumbosacral sympathetic nerve with the lumbar and sacral ganglia instead of a periarterial sympathectomy It appears that this operation has a more marked effect than periarterial sympathectomy and gives immedi ate relief of the pain which is often associated with the disease

In intermittent claudication spontaneous gan grene and Raynaud s disease the author found a very pronounced parenchymatous degeneration of the nerve cells such as colloid necrosis fatty de generation vacuole formation and neuronophagia in addition the majority of the cases showed hyper plasia of the connective tissue increased blood ves el formation thickening of the blood vessel walls and lymphocytic infiltration of the interstitial tissue

In bronchial asthma and epilepsy the histological findings were practically the same but in epilepsy the neuronophagia was somewhat less frequent and in four of five cases there were no vascular changes

In the remaining eight cases of different diseases no noteworthy pathological changes were to be found besides a slight fibrosis in a patient of ad vanced age

In the majority of cases of Raynaud s disease intermittent claudication and spontaneous gan grene extirpation of sympathetic ganglia was suc cessful The assumption that these diseases are caused by a condition of increased irritability of the sympathetic system seems to be justified

The histological findings point in the same direc tion In bronchial asthma which is attributed by many clinicians and investigators to overstimulation of the parasympathetic system the observed histo logical changes in the cervical ganglia may perhaps be the result of overstimulation of the sympathetic

system due to a physiological antagonism. The degenerative changes in the cervical ganglia so produced may in turn cause the asthmatic attack by reflex stimulation of the parasympathetic center This is suggested by the experiments of Ito who was able to produce expiratory spasms of the lungs by stimulating the central stump of the cervical sympathetic nerve Therefore the results of sympathectomy in asthma may be attributed to the elimination of an essential segment of a vicious circle

The explanation for the histological changes in the cervical ganglia observed in idiopathic epilepsy is still undetermined It is probable that the influence of the sympathetic on the rigidity and hypertonia of the musculature plays a part

Takakusu observed degenerative changes in the nerve cells of the sympathetic system of rabbits after repeated injections of adrenalin The assumption that continued or frequent stimulation of the sympathetic produces such changes appears plausible In the work under discussion the changes in the cells were often more pronounced than was to be expected from the degree of the lymphocytic infiltration The author therefore questions the correctness of the theory of a primary inflammation He believes that in the diseases mentioned a condition of overstimulation of the sympathetic system should be considered the primary factor and that the inflammatory reaction should be considered the result of the degenerative process in the ganglion cells HAERTEL (Z)

Leriche R and Fontaine R The Influence of Removal of the Superior Cervical Sympathetic Ganglion on Traumatic Diabetes Insipidus (De l influence de l ablation du ganglion cervical supérieur du sympathique sur le diabète insipide traumatique) *Presse Méd* Par 1928 xxxvi 1577

The authors report a case of traumatic diabetes insipidus in a man twenty five years of age which was very favorably influenced by treatment with hypophysin Electrical treatment followed by removal of the left superior cervical ganglion caused a very considerable temporary increase in diuresis This increase was not an ordinary postoperative phenomenon as ligation of the left common carotid, an equally serious operation performed several weeks later was not followed by an increase in the amount of urine It was evidently an active and not a passive or paralytic effect If it had been due to paralysis of the cervical sympathetic it would not have been so brief Without doubt it was due to stimulation in the course of the denudation and to the electrical treatment which was given to the cervical ganglion

This case confirms the experimental work of Shamoff who produced polyuria in cats by stimulating the superior cervical ganglion It shows that the cervical sympathetic plays a part in the disturbances of metabolism brought about by lesions of the infundibulum and hypophysis Stimulation or removal of the superior cervical ganglion does not have a diuretic effect when the metabolism is normal. The mechanism by which it produces such an effect in diabetes insipidus is not known

AUDREY G MORGAN M D

Mixter W J and White J C Alcohol Injection in Angina Pectoris *Ann Surg* 1929 lxxix 199

The authors report four cases of severe angina pectoris which were treated by alcohol injections into the posterior roots of the first five thoracic nerves according to the Swetlow technique All but one of the patients had anginal attacks even while at rest in bed There were no fatalities from the injections but two of the patients died of the cardiac condition eight and five months after the treatment. All but one patient obtained a certain amount of relief from the pain and three have had practically complete relief for fourteen nine and six months respectively LEO M DAVIDOFF M D

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Ward R Inoperable Carcinoma of the Breast Treated with Radium *Brit M J* 1929 1 242

This article is a review of 633 cases of inoperable carcinoma of the breast which were treated with radium in the period from 1918 to 1928 Four hundred and sixty nine were cases of recurrence subsequent to operation and 164 were primarily inoperable The axillary glands were involved in 300 and the supraclavicular glands in 290 In 223 cases there was involvement of the chest wall Ulceration was present in 83 and œdema of the arm in 105

Of 510 patients treated in the period from 1918 to 1925 112 (22 per cent) were alive at the end of three years of 405 treated in the period from 1918 to 1923 51 (12 6 per cent) were alive at the end of five years and of 82 treated in 1918 5 (6 1 per cent) were alive at the end of ten years Of those who succumbed within three years about 40 per cent showed marked temporary benefit Ulcerations were healed or prevented nodules and masses were reduced in size and rendered less fixed and relief often resulted when there was marked œdema of the arm

Early operable cases are cases without gland involvement In these surgery is the method of choice and in about 73 per cent will prolong life for ten years In late operable cases with palpable glands the value of surgery is debatable as metastases often appear within six months after operation

Radium treatment should be applied not only to the tumor itself but also to the adjacent areas and lymph glands The author gives a brief description of the technique FRANK B BERRY M D

TRACHEA LUNGS AND PLEURA

Bowen D R Acute Massive Collapse (Atelectasis) of the Lung *Am J Roentgenol* 1929 xii 101

Massive collapse of the lung is a definite clinical entity due to total occlusion of a bronchus with subsequent absorption of the retained air The principal physical sign is mediastinal displacement toward the involved lung Attention was first called to this important diagnostic sign by Pasteur in 1911 The displacement of the mediastinum which includes the heart is due to the negative pressure created by the collapsed lung area and is directly proportional to the degree to which the negative pressure is relieved by emphysema of the opposite lung elevation of the diaphragm or depression of the chest wall

Acute massive collapse of the lung following operation is probably much less common than that occurring without traumatism It was not until the work of Pasteur that the essential differences between this condition and postoperative pneumonia were recognized When a rise in the temperature occurs after subsidence of the reaction to operation a roentgen examination for atelectasis should be made and if the condition is found the treatment of Sante should be given Bronchoscopic drainage is of great importance

GEORGE A COLLETT M D

Middeldorpf K The Results of the Surgical Treatment of Pulmonary Abscess with Special Reference to Paraffin Filling (Ergebnisse der chirurgischen Behandlung der Lungenabscesse mit besonderer Beruecksichtungen der Paraffinplombe) *Deutsche f Chir* 1928 ccxii 17

Pneumotomy is still the clinical method for the treatment of abscess of the lung It is indicated in the usually benign circumscribed abscess when healing has not begun after from six to eight weeks of internal treatment by simple aspiration In purulent conditions of the lung with a diffuse spread and destruction of tissue and in the initial stages of gangrene early removal of the pus is necessary on account of the development of septic or toxic manifestations In such cases the mortality is high in spite of treatment A one stage operation is associated with considerable danger of pneumonia In the two stage operation the lung is able to adjust itself to the changed conditions of respiration and circulation after removal of the bone of the chest wall

The use of paraffin filling has considerably improved the results and is the best method of causing the formation of adhesions It failed to produce adhesions only once in eleven cases The filling prepares the parts for subsequent pneumotomy by obliterating the pleural space The abscess sometimes breaks spontaneously into the filling as a result of pressure The filling limits the abscess and may of itself help to empty the pus and effect a cure

The author reports twelve cases representing various types of abscess in which paraffin filling was used BRUNNER (Z)

Baumgartner Two Cases of Pulmonary Gangrene Cured by Operation (Sur deux cas de gangrène pulmonaire opérés et guéris) *Bull et mém Soc nat de chir* 1928 liv 1270

The author reports two cases in which a large gangrenous pulmonary abscess was treated successfully by surgical drainage He warns against too early operation in the acute stage of the disease but states that on the other hand operation should not be delayed until general sepsis occurs or the abscess becomes chronic. If ordinary expectant medical

treatment has failed surgical drainage will give better results than pneumothorax or surgical collapse Pneumothorax will render operation more difficult by increasing the chance of pleural infection Drainage and removal of the slough is much to be preferred to collapse It should be carried out in easy stages in order to reduce the shock to the minimum and permit the formation of a protective wall of granulations about the drainage opening and protective pleural adhesions FRANK B BERRY M D

Kirklin B R Paterson R. and Vinson P P Primary Carcinoma of the Lung *Surg Gyn & Obst* 1929 xlviii 191

In the early stages carcinoma of the lung may be divided clinically and roentgenologically into two types (1) the bronchial arising in the wall of a first second or third degree bronchus and (2) the parenchymal arising in the substance of the lung

In cases of the bronchial type there is a history of early persistent cough which is not greatly productive and is often associated with the expectoration of blood or blood tinged sputum Usually there is a loss of weight In some cases unilateral infiltrating density at the hilum is seen in the roentgenogram but more constantly there is atelectasis of a lobe due to bronchial obstruction

The parenchymal tumor is more latent but is associated with a definite loss of weight and a peculiarly ill localized type of pain in the chest Later the bronchus may become invaded in which case the lesion resembles the carcinoma of the bronchial type In the roentgenogram it is seen as a round nodule with infiltrating edges which lies free in the lung tissue Still later it involves all or most of the lobe

In the more advanced stages the two types become similar and the malignancy is obscured either by pleural effusion or by infective processes The patient suffers from dyspnœa or shows evidence of infection

The parenchymal tumor is usually an adenocarcinoma The bronchial tumor may be either an adenocarcinoma or an epithelioma The epithelioma is practically confined to the bronchus and is of a high grade of malignancy

Pfeiffer D B Empyema and Suppurative Pericarditis Thoracotomy and Pericardiotomy *Ann Surg* 1929 lxxxix 30

Pfeiffer reports the case of a boy with empyema and suppurative pericarditis who was cured by operation He describes the operative procedure in detail

Osler is quoted as saying that probably no serious disease is so frequently overlooked by the practitioner as suppurative pericarditis Cutler states that in a review of 3 683 autopsy records at the Boston City Hospital Locke found 150 cases of acute pericarditis of which only 27 (17 per cent) had been diagnosed clinically Stone in a study of 300 fatal cases of pneumonia found pericarditis in 72 In 44 of the latter the fluid was purulent

The possibility of suppurative pericarditis as a complication should be considered in cases of pneumonia osteomyelitis, and other septic states that present a puzzling and otherwise unexplainable toxæmia When once the diagnosis is reasonably established there should be no hesitation or delay in resorting to surgical treatment In the reported cases which were not treated by operation now numbering about 130 the mortality was over 50 per cent Many of these cases were in the late stages and complicated by other lesions Certain patients apparently moribund have recovered after release of the pressure of the exudate upon the heart the so called cardiac tamponade which prevents the venous blood from reaching the chambers of the heart The operation is simple and singularly devoid of inherent complications It can be performed readily under local anæsthesia Adequate drainage for an adequate period of time is the prime essential This has been established by a great variety of approaches (1) through the sternum (2) to the right or left of the sternum by (a) intercostal incision (b) trap-door incision or (c) the excision of one two or three costal cartilages and (3) by xiphosternal incision

The method used in Pfeiffer's case was that described by Pool in the April 1921 issue of *Annals of Surgery* It is a slight modification of the method of Delorme and Mignon In a fair number of cases recovery has resulted without the use of irrigating fluid and in the author's case in which there was rapid formation of fibrinous coagulum it is doubtful whether more than the drainage sinus itself was reached by the Dakin's solution However the author's case was an early case with undoubtedly a strong immunity to the previous pneumococcus infection In cases presenting greatly dilated sacs and heavy exudate irrigation seems to be indicated It has been established that a large variety of mild antiseptics may be tolerated as irrigation solutions Their relation to subsequent pericardial adhesions remains to be demonstrated While very early cases may do well under treatment with simple postural drainage it is probable that as a rule the assistance of irrigation will be necessary to carry off the excess exudate and prevent subsequent pocketing in the lateral and posterior recesses of the pericardium JOHN J MALONEY M D

Llambias J and Tobias J W A Contribution to the Study of Primary Endothelioma of the Pleura (Contribución al estudio del endotelioma primitivo de la pleura) *Rev Assoc méd argent* 1928 xli 743

In any consideration of pleural endothelioma it is necessary to establish first whether the endothelioma originated primarily in the pleura or spread to it secondarily from a point of origin in the bronchopulmonary tissues It is then necessary to identify the mother cells of the tumor According to one theory primary endothelioma of the pleura originates from the cells of the serous endothelial lining of the pleura whereas according to another it has its origin in the endothelial lining of the subpleural lymphatics.

The authors report a pathological study of five cases The cells of the endothelial lining of the pleura may give rise to tumors with cells having the histological characteristics of endothelial cells but they often resemble epithelial cells also and present a carcinomatous aspect The transition to malignancy therefore produces an epithelial resemblance The living cells of serous surfaces are of mesodermic origin that is endothelial and not epithelial The tumors that originate from them should therefore be called endotheliomata and not epitheliomata whether they originate from cells of the serous lining or from those of the underlying lymphatics The term carcinoma of the pleura is a misnomer

A complete histological study will not always determine whether the mother cell of the tumor originate from the serous lining or the lymphatics In two cases the authors were able to demonstrate the origin definitely from the serous surfaces In two others the findings of microscopic study were indeterminate WILLIAM J MEEKER M D

HEART AND PERICARDIUM

Loucks H H Suppurative Pericarditis Report of Two Cases Drained by the Posterior Route *Arch Surg* 1929 xviii 852

Loucks reports two cases of suppurative pericarditis in which recovery resulted after the establishment of posterior drainage In one case a walled off abscess of the posterior pericardium followed an anterior pericardiostomy and was drained through a previously made thoracostomy incision In the other case drainage was established by the posterior route after an unsuccessful attempt at anterior drainage

Posterior drainage has a great advantage in selected cases as it provides a natural postural drainage which is preferable to tube or tissue drainage The author cites also the limitations of the posterior approach but believes there are some cases in which it might be used advantageously as a primary procedure In such cases irrigation with chlorinated soda can be done safely especially if warm physiological saline is used for the first day or two LOUIS F GAMBEE M D

ŒSOPHAGUS AND MEDIASTINUM

Simpson W L Congenital Atresia of the Œsophagus with Tracheo Œsophageal Fistula *Arch Otolaryngol* 1929 ix 267

Simpson reports three cases of congenital atresia of the œsophagus with tracheo œsophageal fistula This is the most common type of œsophageal malformation The atresia usually develops on a level with the bifurcation of the trachea

Regurgitation occurs immediately after eating and induces coughing choking and attacks of cyanosis Mucus and saliva run from the nose and mouth Crying forces air into the stomach through the fistula The diagnosis may be confirmed by the passage of a catheter or small œsophageal tube and X ray examination

As a rule death results after a few days from pneumonia In the three cases reported by the author gastrostomy was done One of the patients lived for sixteen days a longer period of survival than has been reported in the literature JACOB M MORA M D

Sturgeon C T Œsophageal Diverticula *J Iri M Ass* 1929 xcii 379

Œsophageal diverticula are of two types—traction diverticula and pulsion diverticula Traction diverticula occur in the thoracic portion of the œsophagus as the result of the cicatricial contraction of chronic inflammatory processes They rarely attain any appreciable size or produce symptoms Pulsion diverticula occur most frequently in elderly men in the posterior wall of the œsophagus in the cervical region directly back of the cricoid cartilage at the juncture of the œsophagus with the pharynx They are thought to be due to congenital absence of muscle fibers in this area and incoordination of the cricopharyngeal muscle

The diagnosis is not difficult The patient gives a history of dysphagia and regurgitation of food and the diverticulum is revealed by the X ray

The treatment is surgical The operation should be done under local anæsthesia in two stages In the first stage the sac should be freed elevated above the œsophageal opening without too great traction and sutured to the sternomastoid or the platysma In the second stage of the operation performed from eight to twelve days later after the adhesions are firm enough to prevent infection of the deep structures of the neck the sac should be removed

In eight cases treated by the author there was complete recovery without recurrence WILLIAM E SHACKLETON M D

Kramer R Endoscopic Treatment of Œsophageal Suppuration *Laryngoscope* 1929 xxxix 97

Three cases of œsophageal suppuration treated successfully by endoscopy are reported

The first was a case of mild suppuration confined to the layers of the œsophageal wall which was caused by a foreign body a fishbone

In the second also the suppuration was due to a fishbone but was more extensive involving the deeper layers of the wall

In the third there was a perforation of the œsophageal wall caused by a previous bronchoscopic treatment The infection was severe and involved the superior mediastinum as was demonstrated in the roentgenograms

The treatment consisted in enlargement of the wound in the wall and aspiration of the pus Complete recovery resulted in all three cases

Œsophageal suppuration may occur as the result of trauma from instrumentation injury from a foreign body stab and gunshot wounds acute

treatment has failed surgical drainage will give better results than pneumothroax or surgical collapse Pneumothorax will render operation more difficult by increasing the chance of pleural infection Drainage and removal of the slough is much to be preferred to collapse It should be carried out in easy stages in order to reduce the shock to the minimum and permit the formation of a protective wall of granulations about the drainage opening and protective pleural adhesions FRANK B BERRY M D

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SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Elkin D C Pneumococcic Peritonitis *Arch Surg* 1929 xviii 745

Elkin reports six cases of pneumococcic peritonitis occurring in about 30 000 hospital admissions The cases represent both the primary form and the form that is secondary to pneumonia and pleurisy In secondary peritonitis the infection occurs by way of the blood stream—by embolic implantation of the pneumococci—or more often by direct extension through the diaphragm Primary infection of the peritoneum is more difficult to explain According to various theories advanced it occurs by way of the blood stream the gastro intestinal tract the lymphatics or the female genital tract Most clinical evidence and the findings of experiments on monkeys indicate that it originates most frequently in the female genital organs Five of the six patients whose cases are reported by the author were females

In three of the cases reported the condition followed pneumonia and in three it was apparently primary in the peritoneum One patient with primary peritonitis died before operation was performed Two were operated upon and recovered In each of these cases the smear and the cultures of the peritoneal fluid showed pneumococci The prognosis in cases of primary peritonitis depends more upon the severity of the infection and the patient's susceptibility than upon the treatment The best treatment is drainage of the peritoneal cavity

In secondary peritonitis recovery rarely results Peritonitis so often fatal in itself has but little chance of a favorable outcome when it is combined with such a serious infection as pneumonia

HARRY W FINK M D

Bost T C Mesenteric Injuries and Intestinal Viability *Ann Surg* 1929 lxxxix 218

Injury to the mesentery is one of the most common and serious lesions of penetrating wounds of the abdomen The hæmorrhage from the injured mesenteric vessels is sometimes fatal the slits in the mesentery may lead to hernia but as a rule the danger is due chiefly to injury of the blood supply of a loop of bowel The viability of intestinal loops is endangered also by the surgical removal of cysts and tumors of the mesentery

Therefore in dealing surgically with traumatic injuries and new growths of the mesentery it is necessary to determine definitely how much of the blood supply can be sacrificed with safety Failure to resect a loop of intestine incapable of regaining its vitality is disastrous and unnecessary resection will also greatly increase the mortality especially in traumatic injuries which frequently involve other organs besides the mesentery and intestine and render the patient a very poor operative risk

According to surgical teaching a tear more than 2 in in length at the intestinal attachment of the mesentery necessitates resection but in clinical cases and experiments the author has found that recovery will result when as much as 8 in of intestine is denuded of mesentery and only simple suturing without resection of the bowel is done

CHARLE F DUBOIS M D

Grigorowsky J M Fibroma of the Mesentery (Ueber Mesenterialfibroma) *Deutsche Ztschr f Chir* 1928 cxx 390

The author reports a case in which physical examination revealed in the abdomen a round tumor the size of two fists which had some mobility upward and laterally and caused no symptoms At operation the neoplasm was found to be adherent to the cæcum and ascending colon Microscopic examination showed it to be a hard fibroma of the mesentery

The literature contains the histories of only 40 cases of fibroma of the mesentery Three of the cases were reported in the Russian literature Tumors primary in the mesentery are rare In 1925 Lopow was able to collect only 134 cases

Fibromata of the mesentery occur much more frequently in males than in females They cause no symptoms and are discovered only accidently by the patient or physician They are characterized by (1) a mid position with greater deviation to the left or right according to the point of origin at the mesenteric attachment (2) greater mobility laterally than upward or downward and (3) a tympanitic zone between the tumor and pubis by which tumors of the female genital organs can be excluded

VOGELER (Z)

GASTRO INTESTINAL TRACT

Zwerg H G The Etiology of Acute Dilatation of the Stomach (Zur Aetiologie der akuten Magendilatation) *Beitr z klin Chir* 1928 cxlvi 777

The cause of acute dilatation of the stomach is not entirely clear The condition has not as yet been produced experimentally The experiments of Stiedas and von Herffs have shown that the picture of acute gastric dilatation does not depend upon arteriomesenteric occlusion of the intestines and that the condition may be fatal as the result of paralysis of the gastric nerves

Zwerg attempted to produce acute dilatation of the stomach experimentally in dogs by paralyzing the gastric nerves With the finest possible needle

œsophagitis diverticulitis simple ulcer lues tuberculosis and neoplasms

The treatment should always begin with œsophagoscopy to determine the nature of the lesion to remove a possible foreign body and to evacuate the abscess cavity If improvement does not follow external drainage must be considered

FRANK B BERRY M D

Jackson C Peptic Ulcer of the Œsophagus *J Am M Ass* 1929 xcii 369

Peptic ulcer of the œsophagus was diagnosed in 88 of over 4 000 cases of œsophageal disease seen in a period of forty two years Twenty one of the lesions were active ulcers

The symptoms of peptic ulcer of the œsophagus are usually considered gastric The author believes that when every patient with the slightest discomfort or abnormality in swallowing pain or discomfort back of the sternum gastric hæmatemesis or regurgitation heart burn or water brash is examined with the œsophagoscope peptic ulcer of the œsophagus will be found more frequently although it is probably not a common lesion

The chief cause of the acute œsophageal ulcer is undoubtedly focal infection Persistence of the ulcer is probably due to peristalsis and the flow of food and gastric juices during active digestion

The most constant and significant symptom is pain behind the lower half of the sternum extending through to the back between and under the shoulder blades This pain is more severe than the pain of cancer in the same location Slight tenderness may be noted on the passage of food or swallowing may be accompanied by persistent pain but as a rule the pain comes on half an hour after the ingestion of food and sometimes only after the heaviest meal of the day The prompt relief following the taking of alkalies is so marked and so constant as to justify the conclusion that the pain is due to acid

Deductive methods of diagnosis have no place in the diagnosis of disease of a viscus so easily and safely inspected as the œsophagus Roentgen examination is negative except in long standing cases Roentgen examination should precede œsophagoscopy but negative roentgen findings do not exclude peptic ulcer In doubtful cases biopsy should be done and the specimen should be taken from the edge of the ulcer

Peptic ulcer of the œsophagus may be looked upon as a serious condition It is not known however how often the lesion has healed spontaneously In practically all of the reported cases the description of the lesion was based on autopsy findings Most of the deaths were due to spontaneous perforation into the pleura or into a large blood vessel

Of chief importance in the treatment is the eradication of foci of infection Next in importance are the weekly endoscopic application to the ulcer of 10 per cent silver nitrate solution and interim applications of bismuth subnitrate by œsophagoscopic insufflation The diet should be that prescribed for cases of gastric or duodenal ulcer

WILLIAM E SHACKLETON M D

Seiffert A Incision of the Oesophagus in the Treatment of Fresh Injuries of the Mediastinum Originating from the Oesophagus (Oesophagusschlitzung zur Behandlung frischer vom Oesophagus ausgehender Verletzung des Mediastinums) *Arch f klin Chr* 1928 cl 569

In the case of a man forty nine years of age a perforation was made in the œsophagus during attempts at the removal of a foreign body and a mediastinal abscess resulted With the aid of the œsophagoscope the opening was enlarged by means of ordinary scissors along the entire extent of the abscess cavity a distance of about 15 cm Smooth recovery almost free from fever occurred in about twenty-eight days during which time the patient was fed through a tube

This case demonstrates that the prognosis of free perforation of the œsophagus is not hopeless and that mediastinotomy is not indicated in every instance The author has seen healing occur simply under rectal feeding but in this case he preferred to make an incision to facilitate the escape of the blood swallowed material and secretions which filled the cavity in the mediastinum SIEVERS (Z)

sequently pyloric spasm may result There is also the danger of axial torsion with all of its sequelæ

The clinical diagnosis is difficult As a rule the patient complains of a sense of pressure in the right hypochondrium dyspnœa heartburn and a poor appetite possibly also of colics in the upper part of the abdomen on the right side with pain radiating toward the right shoulder Often the symptoms include a rise in the temperature nausea vomiting and rigidity of the abdominal muscles In some cases there is icterus The symptoms usually begin a few hours after meals or after severe bodily exertion In contrast to diseases of the biliary passages the development of the symptoms at an early age is to a certain extent suggestive Up to the present time roentgenography has been of no diagnostic aid Hence the diagnosis is often for the first time at operation and even at laparotomy the condition is sometimes overlooked

As the method of operation the author recommends duodenojejunostomy In the presence of marked ptosis and pylorospasm the section of the duodenum may be extended up to the pylorus but if the anastomosis is to be made in the lower horizontal portion or its vicinity and the pylorus must be excluded the duodenojejunostomy may be combined with the Finney operation

A case of mobile duodenum is reported in detail

MANDEL (Z)

Okinczyc J Remote Results of Surgical Treatment of Duodenal Ulcer (*Les résultats éloignés du traitement chirurgical de l ulcère du duodenum*) *J de chir* 1928 xxvii 385

As the cause of ulcerous disease is still unknown surgical treatment can only palliate the local manifestations of the condition All methods have successes and failures The results seem to depend upon the time that operation is performed in the developmental cycle of the disease Operation should not be postponed until the appearance of complications such as perforation and hæmorrhage The clearest indication for surgical treatment seems to be the failure of medical treatment tried for a reasonable length of time

In some cases ulcerous disease shows a predilection for the pyloric antrum When the function of this region is disturbed the disturbance *extends* toward the duodenum before intervention or toward the jejunum after certain interventions The conditions of secretion being altered the organism is no longer locally defended against the effects of autodigestion which lead to the formation of a duodenal or jejunal peptic ulcer Ulcer of the duodenum is then not a primary manifestation of the disease but a complication of a disturbance *centered in the* stomach To cure the duodenal ulcer the treatment must be directed to the stomach

Methods of derivation exclusion *resection or* enervation only modify the local conditions of a probably general disease that is they inhibit autodigestion In gastric ulcer the frequency of malignant degeneration is an indication for resection of the lesion whenever possible In duodenal ulcer malignant degeneration is rare therefore indirect action may be taken

The results of simple exclusion of the antrum and pylorus without removal of the ulcer have not been good Exclusion with resection of the pyloric antrum has given better results than simple exclusion but is as severe an operation as an ordinary resection The author has had no experience with enervation or antrectomy as an indirect method of treatment

A review of 197 cases treated on Hartmann s service shows that resection the direct method compares favorably with gastrojejunostomy the indirect method Resection gave good results in 78 56 per cent of the cases and gastrojejunostomy was successful in 65 95 per cent While the higher incidence of good results after resection were balanced by a higher immediate mortality the author regards resection as the better procedure

In 19 complicated cases with perforation severe hæmorrhage or peptic ulcer the immediate mortality was 21 05 per cent In 11 cases the remote results were 4 complete cures 3 improvements and 4 failures The immediate mortality is especially high in cases with serious hæmorrhage In untreated cases the mortality is quite high Some surgeons consider it better to operate immediately at the first manifestations of hæmorrhage since early operation before the patient becomes greatly weakened allows direct intervention such as excision or resection which under the circumstances is superior to indirect methods which do not always stop the hæmorrhage

PACE

Monroe R T and Emery E S Jr The Effect of Irritation of the Colon on the Emptying Time of the Stomach *Am J M Sc* 1929 clxxvii 389

The authors carried out experiments on dogs to determine whether simple but severe chemical irritation *of the mucous* membrane of the colon would affect the emptying time of the stomach The irritant used was turpentine From their findings they *conclude that* irritation of the colonic mucosa does not alter gastric peristalsis or the pylorus so far as the emptying time is concerned and that any relationship between disorders of the lower intestinal tract and the stomach must rest upon some other basis

HOWARD A MCKNIGHT M D

Matry Lipoma of the Cæcum Invagination Right Colectomy Recovery (*Lipome du cæcum invagination colectomie droite guérison*) *Bull et mém Soc nat de chir* 1928 liv 1375

The patient whose case is reported was a woman forty six years old who was operated upon by the author in 1920 for a fibroid of the uterus At that time Matry noticed nothing abnormal in the cæcum or appendix In November 1922 the patient developed symptoms of intestinal obstruction and after six or seven days complete occlusion

he injected the wall of the stomach with a ½ per cent solution of novocain without adrenalin The entire gastric wall was injected from the pylorus to the cardia from 150 to 170 c cm of the solution being used After inflation of the infiltrated stomach by means of a stomach tube such marked distention resulted that rupture of the stomach wall was feared In spite of a completely relaxed and patent pylorus none of the air passed into the duodenum In the empty stomach no contractions could be produced by mechanical or thermal influences by 10 per cent barium chloride solution or by stimulation with galvanic and faradic currents Zwerg says Although the musculature of the stomach is contractile it cannot be stimulated after paralysis of its motor nerves The paralysis is truly of a nervous character The experiments prove that a complete motor paralysis is possible only when the autonomic centers within the gastric wall are paralyzed

In experiments on uninfiltrated stomachs it was impossible to obtain a similar inflation The over distended infiltrated stomach did not remain permanently in that condition

On the basis of the literature and his own investigations the author regards it as improbable that acute gastric dilatation is due merely to paralysis of the nerve centers in the gastric wall which govern the motor function of the stomach He believes the condition is rather the end result of a group of other influences which are to be sought particularly in the vagus and sympathetic He is inclined to the view that the entire picture is a so called vegetative neurosis that stimulating or paralyzing influences on the vagus or sympathetic may lead to disharmony of these two antagonists of the vegetative nervous system and that the paralysis of the ganglion cells of the stomach wall occurs only secondarily to a disturbance of the regulatory influences of this system In his experiments the antagonistic relationship between vagus and sympathetic was not altered although the entire nervous apparatus of the stomach was paralyzed Zwerg therefore concludes that the negative result supports his theory However he admits the possibility that the negative result may have been due to too short duration of the novocain paralysis LOEHR (Z)

Martin L Peptic Ulcer The Effect of Parenteral Injections of Purified Milk Proteins on the Symptoms and Progress *Arch Int Med* 1929 xliii 299

Of twenty four patients with peptic ulcer who were treated with intramuscular injections of a purified milk protein 83 2 per cent were greatly benefited or clinically cured Ten cubic centimeters of the protein were given at each injection All of the patients were ambulatory and the majority were on a general diet Pain was the first symptom to be affected There were two mild general reactions and one local reaction After the treatment there was no constant rise or fall in the gastric acidity No marked change was demonstrated by the X ray but in some cases the spasm was markedly decreased and the shadow defect appeared smaller

It is not claimed that parenteral injections of purified milk proteins will effect a permanent cure of peptic ulcer they have as yet been used for too short a time and in too few cases The nature of the reaction is unknown JOHN J MALONEY M D

Orr T G and Haden R L The Treatment of Intestinal Obstruction *Ann Surg* 1929 lxxxix 354

The authors state that from the operative standpoint obstruction of the small bowel may be divided into early and late simple obstruction and obstruction associated with circulatory disturbance or gangrene In the early cases of simple obstruction immediate operation can be done with safety In the late cases operation should never be done without preliminary treatment of the dehydration and hypochloræmia In obstruction complicated by strangulation of the gut or gangrene early operation is imperative but may with great benefit be preceded by the administration of salt solution

Dehydration and hypochloræmia play major rôles in death due to intestinal obstruction In every case sufficient salt solution should be given as rapidly as possible to correct these conditions

Distilled water should never be used alone Experimental evidence has shown it to be not only useless but dangerous when introduced in large quantities under the skin or by enterostomy opening

The intravenous administration of glucose in a 10 to 25 per cent solution is of great value in furnishing energy The glucose may be given with the salt solution

Enterostomy as a preliminary operative treatment is of undoubted value in selected cases but should not be depended upon to the exclusion of the administration of water and salt

Treatment of intestinal obstruction with bacillus welchii antitoxin or the administration of human bile by rectum requires further investigation to establish its value EARL C ROBITSHEK M D

Mintz S L Mobile Duodenum (Ueber Duodenum mobile) *Arch klin Chir* 1928 cli 632

Mobile duodenum was first described by Miyake in 1916 It is to be differentiated from duodenal ptosis which is produced by loosening of the retroperitoneal cellular tissue The mobile duodenum is characterized by the presence of a mesentery throughout all or part of its course It therefore represents a cogenital anomaly—persistence of the duodenal mesentery that exists normally only in the earliest embryonal stage The abnormal mobility may be the cause of numerous pathological developments First as the result of kinking the emptying of the duodenum may be inhibited and the consequent distention of the intestinal wall and hepatoduodenal ligament may cause pain According to Heber's findings the tension of the duodenal wall may disturb the function of the pylorus con

Gross disease of the gall bladder was indicated by the following findings (1) no B bile (2) from one to two fifths the normal amount of B bile without cholesterin crystals and (3) from one to four fifths the normal amount of B bile with agminated cholesterin crystals

When the amount of B bile was normal the gall bladder was found at operation to be normal or practically normal in size and shape and to be functioning normally through an open cystic duct When agminated cholesterin crystals precipitated upon particles of bile stained debris were present cholesterosis of the gall bladder with or without formed stones was found In 4 per cent of the cases of cholelithiasis in which small calculi were present in a gall bladder of normal size the amount of B bile was normal and agminated cholesterin crystals were absent

HOWARD A MCKNIGHT M D

Pribram B O The Technique of Biliary Surgery (Zur Technik der Gallenchirurgie) *Zentralbl f Chir* 1928 p 2504

Pribram answers the reflections of Bakes (*Zentral blatt fuer Chirurgie* No 30) regarding drainless closure of the abdominal cavity after cholecystectomy The technical details are of special importance Bakes is unable to account for Pribram s results as he observed the postoperative escape of bile in 230 of 346 cases of cholecystectomy and in 226 of 250 cases of choledochotomy Pribram has now performed primary closure of the abdominal cavity in 223 cases without any mishap There are four possibilities for his results

1 A flow of bile may occur but does not produce symptoms Pribram does not believe this to be true as the postoperative course speaks against it He noted no signs of peritoneal irritation and the postoperative course was smoother than in the drained cases

2 The technically different toilet of the peritoneal wound makes opening of the stump of the cystic duct and the sutured large biliary duct impossible

3 By irritation drainage leads to opening of the suture and stimulates the flow of bile

4 There is a possibility that the flow of bile has its origin in the liver bed and not in the stump or suture Most of the larger biliary ducts running in the liver bed do not empty directly into the gall bladder Direct emptying is a rare anomaly (The author cites a case in which he united this duct end to end with the stump of the cystic duct and closed the abdomen without drainage without resulting complications) On the other hand in the usual enucleation of the gall bladder the biliary capillaries running parallel with the gall bladder are injured Therefore Pribram especially emphasizes the importance of subserous enucleation and for difficult cases recommends the so called mucoclasis

The technique is again described in detail Pribram splits the serosa by a longitudinal incision and thus preserves the entire valuable serous tissue The enucleation is done with the scissors exclusively with care to keep close to the gall bladder wall the injury of which does less harm than injury to the liver bed If the tissue layers in themselves very firm are too adherent to the site of insertion mucoclasis should be done

The most important factor in the safe toilet of the stump of the cystic duct and the sutures of the biliary passages is not the single or double ligation or even the knot formation on the stump but exclusively the peritoneal covering of the stump in several layers For this purpose the previously carefully split hepatoduodenal ligament serves well as it usually contains enough tissue for a double layered covering If there is not sufficient tissue in this ligament the serous tissues of the neck of the gall bladder or the serous folds of the gall bladder are used In ligating the cystic duct Pribram is satisfied with a single silk ligature without previous crushing In a case of necrosis of the common bile duct due to an incarcerated stone he entirely dispensed with suture of the common bile duct and covered the open space only with a carefully applied three fold layer of serosa Here again there was smooth healing with drainless closure In other cases the common bile duct is sutured transversely with paraffined silk as far as is practicable With this technique a suture of the common bile duct and of the stump of the cystic duct holds with absolute safety There is no danger of an escape of bile

Pribram thinks that drainage as such may provoke an escape of bile which would not occur with complete closure of the wound The foreign body irritation caused by the drain may destroy or at least markedly injure the cardinal property of the serosa namely the power of immediate agglutination with the neighboring tissues The serosa rapidly loses its characteristic properties when the milieu of the closed abdominal cavity is destroyed Adhesions occur to a less extent after a biliary operation without drainage than after a similar intervention with drainage

With regard to the stretching of the papilla recommended by Bakes Pribram says that he has seldom done it as in one case complete occlusion of the papilla resulted from inflammatory œdematous swelling on the second day after the stretching However because of Bakes results he is willing to try it again in suitable cases SCHUENEMANN (Z)

Walters W and McVicar C S Relief of Obstructive Jaundice from Tumors in the Head of the Pancreas *Ann Surg* 1929 lxxxix 237

Walters and McVicar report the postoperative course in eight cases of jaundice due to obstruction of the common duct by a pancreatic tumor In these cases Walters had made an anastomosis between the biliary tract and the stomach or duodenum In seven cases the gall bladder was utilized and in one case the union was made between the common bile duct and the duodenum

The authors emphasize the obstacles to exact diagnosis and give rules for classifying cases into

resulted When the author saw her four days later she complained of pain which was most severe in the right flank The abdomen was found distended and in the right iliac fossa and flank there was an ovoid tumor from 12 to 15 cm long which was very sensitive to palpation The pulse was good and the temperature normal The author made a diagnosis of tumor of the cæcum and recommended operation but the patient refused surgical treatment

After the application of ice to the abdomen for three days the pain was relieved and a roentgen examination was made following the injection of a barium enema The left colon filled rapidly to the middle of the transverse colon From the middle of the transverse colon the barium progressed slowly and at the subhepatic flexure it stopped and outlined a rounded pocket The pocket was not uniformly opaque The injected colon looked like an interrogation point turned toward the right Under stronger pressure the barium penetrated after several minutes from 7 to 8 cm further into a new segment of the intestine and showed a double pocket From the lower pocket a smaller tract extended toward the umbilicus

Operation was then permitted by the patient and was performed in two stages The first stage was done on November 15 1922 under spinal anæsthesia It showed an ovoid tumor in the right flank formed by an invagination which reached the origin of the transverse colon The invagination was easily reduced by expression A firm tumor the size of a mandarin orange could then be seen at the base of the cæcum In the root of the mesentery there were four hard enlarged glands When the intestine was disinvaginated it did not show any serious lesions As the patient was in poor condition the author deferred removal of the tumor After section of the small intestine he made a laterolateral anastomosis between the proximal end and the origin of the transverse colon

Intestinal function was re-established the next day Three days later Matry resected 20 cm of the small intestine and 25 cm of the colon including the cæcum the ascending colon and the right flexure

Uneventful recovery resulted The patient was seen several times after the operation and found to be in excellent health X ray examination in September 1923 demonstrated that the barium passed freely from the transverse colon into the small intestine

Histological examination of the tumor showed it to be a perivascular lipoma which evidently originated in the submucosa The author made the very liberal resection because he feared it was malignant

AUDREY G MORGAN M D

Wreden R R A Method of Reconstructing a Voluntary Sphincter Ani *Arch Surg* 1929 xviii 841

Stone H B A Plastic Operation for Anal Incontinence *Arch Surg* 1929 xviii 845

WREDEN reports a case in which he used a new method of reconstructing a voluntary anal sphincter Vertical incisions were made on each side of the anal orifice down to the aponeurosis covering the muscles of the perineum The fascia of the gluteus maximus muscles was then denuded through two crescent shaped incisions made behind the tuberosities of the ischii A strip of fascia lata 20 cm long and 2 cm wide was then threaded through each of the incisions One end of each strip was passed under the fascia of the gluteus muscle then around the anal orifice and back to the starting point anterior to the fascia of the gluteus muscle The two ends were then sutured together and to the fascia under some tension and the incisions were closed At the time of Wreden's report ten months after operation the patient was able to retain gas and fæces

STONE reports two cases in which he exposed the median edge of the gluteus maximus muscle on each side through a 3-cm incision along a line drawn from the coccyx to the tuberosities of the ischium He then made two other incisions each about 1 cm long radiating from the anal orifice one anterior and the other posterior to the anal orifice Next by blunt dissection he tunneled around the anus and connected the four incisions Strong linen thread was used to pull strips of fascia through these tunnels so that they encircled at one end the anal orifice and at the other a band of the gluteus muscle The two strips of fascia interlocked around the anal canal and the two ends of each strip were tied together under moderate tension

In the author's first case the result was very gratifying In the second the result was unsuccessful because of infection The author attributes the infection to chemical irritation caused by the dead fascia

LOUIS P GAMBEE M D

LIVER GALL BLADDER, PANCREAS AND SPLEEN

Hollander E Studies in Biliary Tract Disease II A Study of the Important Microscopic Elements in Bile *Am J M Sc* 1929 clxxvii 371

Hollander E Studies in Biliary Tract Disease III The Diagnostic Value of a Colorimeter for the Meltzer Lyon Test A Report on 100 Consecutive Cases of Gall Stones *Am J M Sc* 1929 clxxvii 377

Four elements of bile obtained from the gall bladder or bile ducts which are diagnostic of a pathological state of the biliary tract are bile flocculi intensely bile stained débris agminated cholesterin crystals and sand like particles

Bile flocculi intensely bile stained débris and sand like particles were found by the author in bile from both the gall bladder and the bile ducts but agminated cholesterin crystals were discovered only in bile from the gall bladder

In 100 cases of cholelithiasis the bile obtained by duodenobiliary drainage was examined microscopically and by means of a colorimeter to determine the volume and color intensity of the B bile Evidence of disease of the gall bladder was found in 96 case

to be the most satisfactory in the group With this method excellent results have been obtained in seven cases over a period of many months and in one case over a period of more than two years

Fourteen of the patients are living Seven have had excellent results being free from pain jaundice and itching The remaining seven have had fairly good results They are working and are free from constant jaundice although at intervals they have temporary incomplete biliary obstruction evidenced by slight jaundice chills and fever Two patients died in the hospital Their serum bilirubin was 12 8 and 10 mgm respectively Both had been operated on twice elsewhere A third patient aged sixty four years died suddenly at home twenty months later after complete recovery from the operation The cause of his death is not known

For successful treatment of strictures of the common bile duct and the hepatic duct there must be a sufficient amount of the duct proximal to the stricture to permit accurate anastomosis to an opening in the duodenum and infection in the walls of the duct and the intrahepatic biliary passages must be minimal

Mention is made of Judd and Counseller s interesting study of the intrahepatic biliary tree by the celloidin injection corrosion method combined with microscopic examination of the biliary tree itself which called attention to the fact that general obliterative cholangeitis may exist months before signs of stricture

In one case in which there was a very large anastomotic opening between the duct and the duodenum severe cholangeitis developed two or three months after the operation in the absence of extrahepatic biliary obstruction It was accompanied by progressive enlargement of the liver and spleen and the formation of ascite The jaundice and fever disappeared with subsidence of the intrahepatic infection but the enlargement of the liver and spleen persisted The ascites however was controlled by the administration of a mercurial diuretic

In one of the cases reported an external biliary fistula was established for complete stricture of the common and hepatic ducts Two months later transplantation of the coned out fistulous tract into the duodenum was followed by good recovery with relief of symptoms The fistula was transplanted March 13 1928 and the patient has been free from symptoms since Six additional successful cases of this type have been reported by others

An interesting case among the group of seventeen was that of a woman who was bedridden for almost a year subsequent to drainage of the gall bladder performed elsewhere This patient has had a good result from cholecystoduodenostomy which was performed in January 1926 and relieved the biliary obstruction from a stricture in the common duct distal to the entrance of the cystic duct She has been working and feeling well since the operation except for transient periods of mild jaundice with fever lasting a day These periods recur at intervals of several months and probably indicate the existence of residual cholangeitis which occasionally flares up During the last nine months symptoms referable to the biliary tract have been absent

Mention is made of complications such as duodenal fistulæ and the accumulation of bile around the liver These complications were studied clinically and reproduced experimentally the resulting toxæmia was controlled by a method described by Walters and Bollman The two patients in whom these complications occurred are living and perfectly well two years and one and a half years respectively, since operation

Giuliani G and Madoi G The Healing of Wounds of the Common Duct (La guarigione delle ferite del coledoco) *Arch ital di chir* 1928 xvii 501

Experiments were carried out on dogs with regard to the healing of wounds of the common duct especially longitudinal incisions such as are made for the extraction of calculi Three groups of experiments were performed In the first group a choledochorrhaphy was done the walls of the duct being sutured in a single layer In the second series the wound was not sutured but was simply filled with the fat attached to the lesser curvature of the stomach (lesser omentum) To be certain that the fat was in contact with the experimental wound it was fixed with two sutures to the hepatoduodenal ligament care being taken not to involve the common duct and not to injure the vessels of the hilus of the liver In the third series of experiments the wound was left alone not being either sutured or filled with fat This method is called simple choledochotomy

In both of the first two series closure of the wound had begun by the fifth day Choledochorrhaphy has the disadvantage of decreasing the lumen of the duct but in the animals in which it was done the newly formed connective tissue became covered with epithelium sooner than in those in which the wound was filled with fat because the fat pushed the edges of the wound apart and separated the margins of the mucosa In the wounds filled with fat the surface of the newly formed connective tissue to be covered with mucosa was larger than in those in which choledochorrhaphy or choledochotomy was done but in spite of the delay in the covering choledochotomy and filling of the wound with fat resulted in recovery in every instance and did not decrease the lumen of the duct Choledochorrhaphy was followed by recovery in 79 per cent of the animals Two of the eight dogs died In addition to the high mortality there was a decrease in the size of the lumen of the duct The mortality of simple choledochotomy was 50 per cent

The authors conclude that if clinical experience confirms the experimental results filling with fat is the best procedure for the treatment of wounds of the common duct AUDREY G MORGAN M D

surgical and non surgical groups Jaundice due to metastasis to the liver is recognized from physical signs and the demonstration of a primary neoplasm in the stomach and intestine Another type of non surgical jaundice is due to primary intrahepatic disharmony In this condition which is characterized by a painless onset a free flow of bile is recovered on siphonage of the duodenal contents When jaundice is due to an irremovable obstruction internal drainage not only permits prolongation of a useful life but relieves the patient from the torture of pruritus

In the cases reported the degree of jaundice as measured by serum bilirubin (van den Bergh) varied from 23 8 to 4 1 mgm for each 100 c cm of blood All of the eight patients were deeply jaundiced preceding the operation Six are living and free from jaundice and itching Three feel well and two of these have gained 20 lb each One reports his condition as improved One reports that he is continually ailing and unable to work. One of the patients on whom cholecystoduodenostomy was performed for carcinoma at the head of the pancreas died on the seventh day from what appeared clinically to be renal and hepatic insufficiency Another patient operated on lived comfortably and free from jaundice and itching for twenty months after the operation

One of the most interesting cases in the group was that of a patient aged fifty two years who was operated upon on December 1 1925 The operation revealed a tumor at the head of the pancreas and distention of the gall bladder A cholecystogastrostomy was performed Convalescence was without incident The patient was allowed to return home December 18 1925 On re-examination sixteen months later March 21 1927 he stated that his condition had been excellent for thirteen months but during the last three months he had lost 13 lb in spite of the fact that his appetite was good During this time he had been troubled with gas and diarrhœa and had passed frothy stools The blood count was normal General examination did not reveal anything abnormal The patient was allowed to return home and began to improve in health In a letter dated February 27 1928 he stated that the stools were more normal but that he was having epigastric pains which were relieved by the passage of gas In brief he has had twenty six months of freedom from jaundice and itching and is able to carry on his work Of late however there has been epigastric pain

Beaver M G Cholecystogastrostomy An Experimental Study *Arch Surg* 1929 xviii 899

The literature pertaining to cholecystogastrostomy both from an experimental and a clinical standpoint is reviewed

An experimental study of cholecystogastrostomy was undertaken on twelve normal dogs to determine the effect of bile in the stomach on gastric secretion and motility and the possibility of infection of the biliary tract and liver In the cases of six dogs gastric digestion was studied by the McCann method of fractional gastric analysis for dogs and the emptying time of the stomach was determined by means of the barium meal and the fluoroscope Cholecystogastrostomy was then performed with double ligation and division of the common bile duct Following recovery fractional gastric analyses were again made to determine whether the bile had any effect on gastric acidity The results showed definitely that bile did not have any effect on the acidity of the stomach The postoperative emptying time was essentially the same as the pre operative

In the cases of the six other dogs gastric analyses were not made but the same type of operation was performed as in the first series The dogs were allowed to live under normal conditions for varying lengths of time and were then operated upon to determine whether pathological processes were developing in the gall bladder and liver The results led to the conclusion that infections of the biliary tract and liver always occur following cholecystogastrostomy It is suggested that the absence of clinical evidence of such infections does not preclude the possibility that pathological changes in the biliary tract and liver are occurring in patients who have been subjected to cholecystogastrostomy

Most The Clinical Significance of the Lymph Glands of the Common Duct (*Die Choledochus* lymphdruesen in ihrer klinischen Bedeutung) *Zentralbl f Chir* 1928 p 2595

The author discusses the clinical significance of the lymph glands of the common duct on the basis of the case of a young patient who complained of severe pain in the right hypochondrium and loss of strength Duodenal ulcer was suspected Surgical exploration revealed no gastric or duodenal ulcer but disclosed slight stasis in the gall bladder caused by three small lymph glands on the lateral and posterior aspect of the common duct one of which was calcified The glands were extirpated Microscopic examination showed non-specific inflammation Complete recovery resulted TRAUM (Z)

Walters W Strictures of the Common and Hepatic Bile Ducts Postoperative Progress in Seventeen Cases *Surg Gyn & Obst* 1929 xlvii 305

After discussing the etiology of contracture and stricture of the common and hepatic bile ducts Walters summarizes the results obtained in seventeen cases of stricture of the common and hepatic bile ducts which he has operated on during the last four and a half years

The patients were carefully followed from the time of their operation In addition to a description of the technique used in each case the progress in the months and years subsequent to the operation is tabulated. The operation of choledochoduodenostomy or hepaticoduodenostomy with end to side or side to side anastomosis with accurate union of mucous membrane of the duct to that of the duodenum (as first described in 1905 by W J Mayo) has proved

GYNECOLOGY

UTERUS

Sicard and Solal Accidents Due to the Intra Uterine Injection of Lipiodol (Accidents consécutifs à une injection intra utérine de lipiodol) *Bull et mém Soc nat de chir* 1928 liv 1423

In the case of a woman thirty years of age the intra uterine injection of lipiodol to determine the cause of sterility was followed by inflammation of the pelvis with pain and fever persisting over a period of two months DUVAL who reported the case before the Society called attention to the fact that these unfavorable sequelæ occurred in spite of a most careful technique He cited another case with similar unfavorable complications He believes that lipiodol is seldom indicated for exploration of the uterus In its use in determining the permeability of the tubes there is always the danger of lighting up an old inflammation In cancer there is danger of disseminating the malignant cells In fibroma the method is not indispensable either for diagnosis or for determining the indications for operation

AUDREY G MORGAN M D

Douglass M and Ridlon M Tuberculosis of the Cervix Uteri with a Report of Two Cases One Probably Primary in the Cervix *Surg Gynec & Obst* 1929 xlviii 408

Tuberculosis of the cervix uteri is a rare lesion occuring in only 3 or 4 per cent of cases of pelvic tuberculosis The tissue resistance of the stratified squamous epithelium of the vaginal cervix and the bacteriocidal quality of the cervical secretions are probably the factors responsible for the immunity Tubercle bacilli have never been found in vaginal secretions Involvement of the cervix by tuberculosis is either a blood stream infection or an ascending infection from a primarily genital lesion

Anatomically tuberculous cervical lesions have been classified as miliary interstitial papillary and ulcerative terms probably descriptive of varying stages of the same pathological process Microscopically there is a wide variation in the picture Hyperplasia of the glands degeneration and granulation tissue occur in the same section Giant cells and typical tubercles vary in number The gross lesion may suggest carcinoma but microscopic examination establishes the diagnosis

The symptoms are extremely variable and indefinite Malaise and fever may be present Amenorrhœa occurs in about 50 per cent of the cases Leucorrhœa is a common early symptom Bleeding after coitus is frequent The blood stained purulent discharge contrasts with the watery discharge associated with cervical carcinoma The tissues tend to be softer than in carcinoma and lack the friability of malignancy At times they are extremely tough because of the extreme infiltration

The authors report in detail two cases of cervical tuberculosis—one of pan tuberculosis of the pelvic viscera and the other of presumably primary tuberculous lesion of the cervix in a twenty two year-old married nullipara who had never menstruated In the first case a cure was obtained by panhysterectomy In the second case treatment was refused

ALICE F MAXWELL M D

Stanca C Cyst of the Uterus (Uteruscyste) *Zentralbl f Gynaek* 1928 p 2602

The case reported was that of a woman thirty eight years of age who was admitted to the hospital for general complaints Physical examination revealed a resistant tumor filling the entire abdominal cavity At laparotomy the neoplasm was found to be the size of a melon After the escape of 5 liters of a clear fluid the origin of the tumor was discovered to be the fundus of the uterus in the region of the left tubal angle Supravaginal amputation of the uterus with bilateral removal of the adnexa was done Recovery resulted

The macroscopic appearance of the tumor and the microscopic findings are reported The mass was a cyst of the uterus which apparently originated from the uterine glands The author assumes that a chronic and possibly specific endometritis was the cause of the proliferation of the uterine glands leading to the development of the cyst VON WEINZIERL (G)

Peightal T C Torsion of the Fibromatous Uterus *Im J Obst & Gynec* 1929 xvii 363

The author reports a case of torsion of a fibromatous uterus and reviews the literature on the condition His patient was a woman fifty-eight years old who had been married for thirty years but had never been pregnant Her menstrual history had been normal She had passed the menopause seven years previously She entered the hospital suffering from severe abdominal pain nausea and vomiting of twenty four hours duration During the past two years she had had three similar attacks of less severity which had subsided spontaneously Several years previously her physician had noted the presence of fibroid tumors and had advised operation but she had refused surgical treatment

On examination by the author the abdomen was found markedly distended and tympanitic and a suggestion of slight shifting dullness in the flanks was noted Palpation revealed moderate generalized sensitiveness and a peritoneal reaction with an area of maximum tenderness and spasm in the left lower quadrant where a mass could be felt The mass extended upward to a point 3 in above the umbilicus

Heineck A P Traumatic Rupture of the Normal Spleen *New Orleans M & S J* 1929 lxxxi 636

Heineck states that traumatic rupture of the normal spleen is becoming more common with the increase in the number of automobile accidents

With the possible exception of the Pitts and Balance sign of persistent dullness on the left side and shifting dullness on percussion on the right side—a sign which is present only after the blood in the abdominal cavity has clotted—the symptoms are generally not pathognomonic

In untreated cases the prognosis is extremely unfavorable The most conservative treatment is early splenectomy Earlier operation improvement in the operative technique and proper postoperative treatment have improved the results

MANTEL E LICHTENSTEIN M D

Welt S Rosenthal N and Oppenheimer B S Gaucher s Splenomegaly *J Am M Ass* 1929 xcii 637

The authors describe Gaucher s disease as a familial condition characterized by great enlargement of the spleen enlargement of the liver a brownish pigmentation of the exposed parts of the skin wedge shaped thickenings of the conjunctiva near the cornea and marked hæmorrhagic tendencies with leucopænia and thrombocytopænia

The diagnosis may be established by bone marrow puncture splenic puncture splenectomy, or roentgen examination of the bones

Splenectomy does not prevent the progress of the disease but is indicated because the spleen is responsible for the thrombocytopænia and its weight may become burdensome

The bone changes of the disease may result in gibbus and apparent deformity of the hips Frequently there is pain in the bones with stiffness and a limp due to involvement of the long bones near the joints especially the hip or knee Roentgen examination shows rarefaction of various bones In four of the authors cases there was a club-shaped widening of the lower part of the femur

EARLE I GREENE M D

Schneidewind O A Case of Primary Sarcoma of the Spleen with Metastases (Un caso de sarcoma primitivo de bazo con métastasis diversas) *Semana méd* 1928 xxxv 288

The author reports the autopsy and histological findings in a case of primary sarcoma of the spleen The organ weighed 2 250 gm and its superficial surface presented many nodules of varying size. Gross metastases were found in the lumbo-aortic glands and the lungs

Microscopic examination showed uniformity of the lesion a large number of new vessels in the neoplasm extensive necrosis a hæmorrhagic tendency and similarity of the metastases to the primary neoplasm The tumor probably had its origin in the cells of the splenic capsule rather than in the lymphocytes splenic reticulum or endothelium.

Primary neoplasms occur less frequently in the spleen than in any other organ Benign tumors of the spleen include fibromata chondromata osteomata hæmangiomata and lymphangiomata

There is no record of a truly authentic case of primary carcinoma of the spleen Malignant transformation of included pancreatic tissue has been described WILLIAM R MEEKER M D

a hæmatosalpinx It was violet colored œdematous and loosely adherent to adjacent structures The torsion had taken place about 2 cm from the cornu of the uterus WILLIAM R MEEKER M D

Di Palma S and Stark M M Spontaneous Rupture of a Pyosalpinx into the Urinary Bladder *Surg Gynec & Obst* 1929 xlviii 419

Pelvic affections involving the female internal genital organs or the intestines whether of inflammatory or neoplastic origin will occasionally create a fistulous communication with a neighboring viscus which results in the spontaneous evacuation of accumulated pus Rupture into the bladder has occurred as a complication of appendicitis infected dermoids ovarian abscesses extra uterine pregnancy pelvic tuberculosis tubal disease of parasitic origin postabortal infections and malignant diseases of the uterus adnexa and intestines

The authors review the thirty four cases of rupture of a pyosalpinx into the bladder which have been reported in the literature and add a case of their own The symptoms are clinically characteristic Following sharp pelvic or suprapubic pains large quantities of frank and often foul smelling pus appear in the urine and there is a drop in the temperature with relief of the urinary and vesical symptoms and decided improvement in the general condition Cystography and cystoscopy confirm the clinical diagnosis A patent ostium is not always visible in the bladder wall but an isolated area of œdema or redness with a crater like opening or an associated pelvic lesion is presumptive evidence of impending rupture or ulceration The site of rupture is usually on the lateral wall to one side of a ureteral opening Roentgenograms made after the injection of opaque fluid confirm the diagnosis The rupture may heal spontaneously but if the patient is in poor general condition it may recur several times Abdominal removal of the pelvic pathological lesion is the method of treatment If identified the fistulous communication between the pyosalpinx and bladder should be repaired Bladder drainage by indwelling catheters and gauze through the vaginal vault is recommended ALICE F MAXWELL M D

Imparato E Sterilization of the Ovary by Corpus Luteum and Insulin (La stérilisation de l ovaire par le corps jaune et l insuline) *Gynec Obst* 1928 xxvii 711

Recent work has shown that the ovary produces two hormones—folliculin which causes rut and corpus luteum which inhibits rut Theoretically therefore it should be possible to produce sterility by injecting extract of corpus luteum

The author experimented on twelve adult female guinea pigs He gave four of them a daily subcutaneous injection of 1 c cm four an injection of 2 c cm and four an injection of 3 c cm of extract of corpus luteum for a month and a half Fifteen days after the beginning of the treatment adult males were put in the cage

Two of the females of the first series became pregnant at once and the third became pregnant fifteen days later The fourth was killed The females of the second and third series remained sterile during the treatment with the hormone Ten days after the end of the treatment two of the females of the second series became pregnant and two of them were killed for histological examination of the ovaries One of the females of the third series became pregnant a month and a half after the end of the treatment and three were killed two days after the end of the treatment

Histological examination showed that the ovaries of the females of the first series had remained quite normal the small dose of the hormone evidently had had no effect In the females of the second series the hormone evidently had had an effect because the animals remained sterile during the treatment and histological examination showed small retracted follicles and two enormous corpora lutea compressing the parenchyma The third series of females showed enormous cystic follicles and degeneration of the ova

Recently Vogt attempted to sterilize the ovary with insulin as he found that the action of insulin depends on the ovarian cycle insulin is activated by folliculin and menstrual serum and folliculin has properties similar to those of insulin In testing insulin on rabbits he found that animals treated for eight days became pregnant but their young were not always viable those treated for fourteen days cohabited but remained sterile and those treated for four weeks refused copulation The author tried sterilization with insulin but used small doses His results were not definite Of six female guinea pigs four became pregnant during the treatment and two were killed afterward The ovaries were found to be entirely normal

At present sterilization by hormone treatment is of no practical value because the period of sterility is too brief and prolonged treatment causes anatomical changes in the ovaries Moreover small doses have no effect and large ones are not without danger AUDREY G MORGAN M D

MISCELLANEOUS

Stemshorn The Question of a Menstrual Cycle in the Human Vaginal Mucous Membrane (Zur Frage des mensuellen Zyklus der menschlichen Vaginalschleimhaut) *Zentralbl f Gynaek* 1928 p 2387

Histological examinations of human vaginal mucous membrane were made in order to follow up the catabolic processes during the menstrual phase As is well known Dierks demonstrated a periodic regular anabolism and catabolism of the vaginal epithelium analogous to that of the œstral phenomena in the vagina of rodents

The material examined by the author was obtained from thirty two women with regular menstrual cycles The staining was done with hæmalum

On bimanual examination the tumor seemed to be closely associated with the uterus Its consistency was that of a fibroid but its size and smoothness and its position to the left of the midline led to a diagnosis of ovarian cyst with either a twisted pedicle or degeneration from a sudden circulatory disturbance

When the peritoneal cavity was opened about a liter of bloody fluid was found in the lower abdomen and pelvis The mass proved to be a large tumor growing from the top of the fundus of the uterus which had undergone torsion of slightly more than 180 degrees on its long axis from left to right so that the left cornu had been drawn around and rested almost in the hollow of the sacrum The pedicle of the rotation was in the region of the upper portion of the cervix A complete hysterectomy was done the remains of the broad ligaments being used for peritonization and pelvis drainage was established through the vagina Recovery resulted

E L CORNELL, M D

Fluhmann C F and Stephenson H A The Coincidence of Hyperplasia Endometrii and Carcinoma Corporis Uteri *Surg Gynec & Obst* 1929 xlviii 423

Hyperplasia of the endometrium is the most important single factor in abnormal uterine bleeding at the menopause and must be constantly differentiated from uterine carcinoma It is of prime importance therefore to determine the exact relation of endometrial hyperplasia to malignancy and how frequently the two conditions may co-exist

Repeated curettages in cases of hyperplasia have shown that occasionally this condition may be succeeded by carcinoma The authors review the few reported cases of hyperplasia associated with malignancy of the body of the uterus and report in detail a case of their own in which marked endometrial hyperplasia occurred in an adenomatous uterus and an early adenomatous carcinoma was found apparently rising from previously simple hyperplastic glands Martzloff and Novak claim that hyperplasia of the endometrium cannot be regarded as predisposing to cancer but because of the possibility of the association of the two conditions a careful study should be made of all tissue obtained from the uteri of women with abnormal bleeding at the time of the menopause

ALICE F MAXWELL, M D

Stevens T G Reports on Material Curetted from the Uterus *Lancet* 1929 ccxvi 515

Stevens emphasizes that in the presence of a malignant growth such as a squamous epithelioma of the cervix or a columnar-celled carcinoma of the body of the uterus the diagnosis should be based on the general appearance of the lesion rather than the individual cell elements. Cervical cancer is so typical that it can hardly be overlooked but it must be remembered that the more common forms show very few if any cell nests or keratinoid changes In columnar-celled carcinoma it is the extreme complexity of the epithelial alveoli the irregularly proliferating epithelium often in more than one layer the presence of many mitotic figures in the nuclei and above all the presence of the smooth muscle and fibrous tissue in the growth indicating invasion of the uterine wall which serve at once to establish the diagnosis

Among the rare growths discovered by the use of the curette is the round-celled spindle-celled, or mixed-celled sarcoma The nature of this lesion is generally quite obvious In doubtful case Van Giesen's stain will usually demonstrate at once the presence or absence of fibrillated connective tissue and smooth muscle thus differentiating the tumor from a fibroma

ROLAND S CROY M D

ADNEXAL AND PERIUTERINE CONDITIONS

Nicholson E Volvulus of the Fallopian Tube (Volvulus de la trompa) *Bol Soc de obst y ginec de Buenos Aires* 1928 vii 197

Volvulus of the fallopian tube may be more common than is supposed as it is difficult to determine the cause of the pathological changes dependent upon it Many cases are probably diagnosed as hydrosalpinx pyosalpinx or hæmatosalpinx The author reports two cases In one the condition was diagnosed as tubal abortion and in the other as torsion of an ovarian cyst

The clinical signs and symptoms of volvulus of the fallopian tube are acute pain of sudden onset in the iliac fossa with symptoms of peritoneal irritation such as vomiting tympanites constipation etc These crises are not related to menstrual function The temperature ranges from 37 5 to 38 5 degrees C and the pulse between 90 and 120 per minute

Volvulus of the fallopian tube is most prone to occur in tall thin women of the asthenic type with relaxation of the supporting structures of the generative organs In one of the author's cases there was prolapse of the uterus with marked relaxation of the pelvic floor

WILLIAM R. MEEKER M D

Ahumada J C and Prestini O Acute Torsion of a Fallopian Tube (Torsion aguda de la trompa falopia) *Bol Soc de obst y ginec de Buenos Aires* 1928 vii 194

Torsion of a normal fallopian tube is much rarer and more difficult to explain than torsion of a diseased tube It may occur with torsion of the corresponding ovary or independently of a torsion of the ovary Torsion of a normal tube alone is favored by hypoplasia of the tube with relaxation of its supporting ligaments

In the case reported by the authors it could not be determined whether the tube was normal at the time the torsion occurred as the patient came to operation some time after the subsidence of the acute pelvic symptoms However there was no previous history of pelvic trouble and the cervix left tube and both ovaries were normal

At operation the right tube was found to be enlarged to the size of a lemon by the formation of

typical decidual reaction during pregnancy and undergoes atrophic reactions after the cessation of ovarian function Its regression is of paramount importance with regard to the treatment

While the gross pathological manifestations of endometriosis differ greatly in various locations the microscopic appearance is fairly uniform—typical uterine glands scattered throughout the lesion supported by stroma bearing a close resemblance to that of the uterine mucosa Endometrial adenomata of the ovary vary in size from small superficial lesions to large cysts several centimeters in diameter The lesions are usually multiple and as a rule involve both ovaries Peritoneal involvement is evidenced by dense adhesions between the folds of which secondary endometrial lesions are frequently found These lesions may invade the bowel bladder and rectovaginal septum Adenomata of the cul-de sac may be coincident with peritoneal and ovarian endometriosis or may exist as primary lesions In the early stages the tumor is recognized as a fixed nodule in the rectovaginal septum or cul-de sac Later penetration of the postvaginal wall may occur and the bluish cyst may rupture with the discharge of dark blood at menstruation Similar endometrial tumors have been found in the inguinal regions umbilicus and laparotomy scars

Because of the variation in the pathological findings a discussion of the symptoms necessitates a division of the cases into three groups (1) those of intraperitoneal endometriosis (including lesions of the ovaries tubes pelvic peritoneum and intestines (2) those of adenomata of the rectovaginal septum and (3) those of transplants or fistulæ in the umbilicus or a laparotomy scar

The symptoms of intraperitoneal endometriosis are not uniform and are dependent upon several factors chief among which are the extent of the lesion the invasion of adjacent structures and the nature of complicating conditions The whole clinical picture rather than isolated symptoms points to the correct diagnosis and may be summarized as follows (1) age between twenty five years and the menopause (2) sterility absolute or relative (3) abnormal menstruation usually menorrhagia (4) dysmenorrhœa of the acquired type (5) dyspareunia (6) sacral backache (7) intermenstrual pain in the lower part of the abdomen with increased discomfort at menstruation and (8) rectal or bladder pain which bears a distinct relationship to menstruation The objective findings vary with the extent and nature of the lesion Symptoms referable to the rectum or bladder should be studied by proctoscopic or cystoscopic examination The demonstration of normal rectal mucosa is of diagnostic value Invasion of the rectovaginal septum with encroachment on the bowel gives rise to pain and occasionally bleeding coincident with menstruation Primary adenomata of the umbilicus implantation growths in laparotomy scars and adenomata of the groin are all characterized by periodic pain and swelling with menstruation

The activity and proliferation of the lesions of endometriosis are dependent upon ovarian function When ovarian function ceases the lesions undergo progressive atrophy As endometriosis is a condition of comparatively young women in whom ovarian conservation is desirable it is apparent that the decision as to the proper treatment may present a perplexing problem The group of lesions which are amenable to conservative measures include the small ovarian adenomata which can be excised and the minute transplants which are destroyed by cauterization The peritoneal implants are small and symptomless increase in size slowly and require no treatment Large ovarian adenomata which are densely adherent require bilateral oöphorectomy This operation is indicated also for cases of extensive adenomatous invasion of the rectum sigmoid or bladder

Rectovaginal adenomata not associated with demonstrable ovarian lesions which are producing rectal pain bleeding or partial obstruction can be treated by castrating doses of X ray or radium irradiation The only treatment of primary adenomata of the umbilicus or a laparotomy scar of transplants and of lesions of the groin is wide excision

ALICE F MAXWELL M D

eosine Gram s anilin water gentian violet stain and Mallory s stain

Stemshorn distinguished three zones in the epithelium *the tumescent the thickened and the* basal zone These zones however are by no means sharply demarcated from one another particularly just before the period a sharply outlined triple layer of the epithelium cannot be spoken of as does *Dierks in his work* Signs of hornification with a high proliferation layer were not demonstrable in any section and at the most one could speak of thickening processes only in the superficial layers of the epithelium

The histological pictures were in direct contrast to the conception of Dierks since according to Dierks conclusions the picture of the mucosa removed in the premenstrual period would represent the postmenstrual findings and vice versa The tumescence of the first zone is attributed by the author to the increasing acidity titer of the vagina and the increasing content of moisture during the intermenstrual and premenstrual periods In both *of these phases the abundance of capillaries and the* filling of the vessels increase markedly to arrive at their maximum during menstruation During the postmenstrual phase they decrease However a regular periodic anabolism and catabolism of the human vaginal mucous membrane running parallel with the menstrual cycle cannot be demonstrated The histological changes in detail are as follows

On the first day after menstruation there is a striking abundance of capillaries and a stratified squamous epithelium penetrating conically and deeply the lowest layer showing closely packed bands of cells sharply outlined Above this there are from two to four layers of markedly flattened *cells with elongated contracted nuclei Another* (first) zone lying above this is indicated only by small cell complexes of indistinct structure

On the tenth day after the beginning of menstruation there appears in places a triple layering of the epithelium with *an abundance of blood vessels in* the deeper layers The first (uppermost) layer consists of from eight to ten weakly staining layers of cells with markedly swollen irregular indistinctly demarcated cells with a glassy content and sparse shrunken nuclei The second layer consists of cells that are markedly split off but sharply demarcated from one another in from five to seven layers while the third (lowest) layer (basalis) shows a squamous epithelium of several layers with a striking abundance of nuclei

On the fifteenth day after the beginning of menstruation the cells of the first layer are swollen structureless and well stained In the deeper layers *there are products of nuclear degeneration* but otherwise there is a distinct demarcation against the second layer which consists only of two darkly staining layers of cells and is just as well demarcated from the third layer which shows a well developed *many layered* epithelium with marked abundance of nuclei

Twenty-eight days after the beginning of menstruation there is a well developed high vaginal epithelium with numerous capillaries well filled *with blood in the deep layers* The triple layering of the previous phases is absent as well as the first layer The second layer is indicated in places only by from two to four layers of cells which are swollen homogeneous and rich in nuclei The transition to the third layer is gradual The latter consists of squamous epithelium with several layers

Hence the epithelium shows various forms in the different phases of the cycle but anabolic and catabolic processes and uniformity in the layering are absent In twelve of the cases studied the triple layering was completely absent SIEGERT (G)

Schochet S S Experimental Endometriosis *Am J Obst & Gynec* 1929 xvii 328

The author s experiments were based on cell stimulation induced by variations in the osmotic pressures of solutions and an oxidase to alter the physical condition of the cell wall

A small section of uterine mucosa was placed *in an* isosmotic solution of strontium chloride for five minutes transferred to rabbit s serum for fifty three minutes placed in a hypertonic salt solution (12 5 gm of sodium chloride to 1 000 c cm of water) for two hours washed in Ringer s solution for one minute and then transplanted into the anterior chamber of the eye of a guinea pig

When the guinea pig was killed seventeen days later examination revealed a marked glandular hyperplasia which appeared as an adenomatous growth without inflammation

E L CORNELL, M D

Keene F E and Kimbrough R A Clinical Aspects of Endometriosis *South M J* 1929 xxii 101

Endometrial tissue has been recognized as occurring in the ovary on the surface of the uterus in the *rectovaginal septum elsewhere in the* pelvis and in the umbilicus In typical instances this tissue has a histological structure identical with that of the uterine mucosa and functionally its reaction to menstruation pregnancy and the menopause is similar to that of the endometrium The *term endometriosis* is used to embrace the various manifestations of the lesions

The authors review the various theories advanced to explain ectopic endometrium It has been attributed to rests of the wolffian body embryonic *inclusions* of muellerian tissue metaplasia of peritoneal serosa the transplantation of endometrium regurgitated through the tubes during menstruation and metastasis of endometrium through the lymph vessels Transtubal implantation explains many instances of peritoneal and ovarian endometriosis but other endometrial formations are explained more satisfactorily upon a metaplastic or congenital basis

Ectopic endometrium participates in typical menstrual reactions under ovarian stimulation shows a

virulent streptococci died of sepsis five days after the evacuation of the uterus

In twenty six of thirty-one cases of carcinoma of the uterus in which the tests were applied strep tococci were found In five the streptococci were of doubtful virulence and in all of these fever de veloped after dilatation and the insertion of radium into the cervix Highly virulent streptococci were demonstrated in two cases of tedious illness with high fever

The author is convinced that the finding of highly virulent streptococci justifies a grave prognosis in all cases When avirulent bacteria are found the course is generally afebrile or only a light infection develops Streptococci of doubtful virulence permit of no definite prediction as to morbidity

SAENGER (G)

Kobes R A Case of Prolapse of the Normally Implanted Placenta (Ein Fall von Prolap der nchtig s tzend n Placenta) *Zentralbl f Gynaek* 1921° p 2747

The author reports the case of a woman with pro lapse of the normally implanted placenta occurring during premature delivery between the eighth and ninth months of pregnancy The patient was re ferred to the clinic with the symptoms of placenta prævia

This was a case of premature separat on of a pla centa permeated by multiple infarcts The jolting occasioned by transportation of the patient to the hospital may have been the cause of the rotation of the amniotic sac (Ahlfeld) In the development of the prolapse a summation of many twisting move ments all in the same direction—in the sense of the Sellheim theory of pedicle twisting—was perhaps an important factor

The report is supplemented with a bibliography

CONRAD (G)

Fortune C H Endocarditis Following Septic Abortion with Special Reference to Subacute Bacterial Endocarditis *Ann Int Med* 1920 II 912

Fortune reports three cases of bacterial endocar ditis resulting from uterine infection following abortion In this connection he cites the well established fact that acute endocarditis is a frequent and serious complication of puerperal sepsis One of the cases presented is illustrative of this type of cardiac disease Subacute bacterial endocarditis while differing clinically in its course is recognizable as being the same pathological process differing only in stage Its clinical peculiarities are due probably to the type of the infecting organism

The two other cases reported demonstrate that subacute as well as acute bacterial endocarditis may be a complication of infection following abor tion In such cases the cardiac condition dominates the clinical picture and its relationship to the pre vious abortion is easily overlooked

ROLAND S CRON M D

LABOR AND ITS COMPLICATIONS

Kermauner F Labor in the Extended Head Position of the Child (Die Geburt in Streckhaltung des Kindes) *Ztschr f Geburtsh* 1928 xciv 1

The author considers the former teachings as to the factors responsible for the birth of children with the head extended as unsatisfactory and has en d avored to discover the causes of deflexion in the fetus He starts out with the assumption that the power of deflection in the fetal cervical spine depends upon the structure of the cervical vertebræ the occipital bone and the type of insertion of the upper most cervical vertebra upon the latter Any condi tion that allows a slight deflection in the sense of cranial exten ion inhibits labor in the pelvic curve to the extent that the forces of labor are not powerful enough to produce flexion of the head The shape of the skull seems not to be a factor The rigid head without the ability of flexion of the cervical spine cannot pass through the quite markedly curved pel vis Especially difficult is deflection of the longitu dinal head in a pelvis that is somewhat too low

The extended head position occurs with the frog shaped head and with apparent absence of the neck due to congenital vertebral ankylosis and absence of the posterior arch of the atlas (Klippel Feil syn drome) Similar defects of the cervical vertebræ in the form of irregularities of the occiput associated with ossification of the atlas to the occiput and changes in the posterior arch of the first cervical vertebra occur in adults The frequency of defects of the atlas shows a striking agreement with the fre quency of extended head positions (1 12 per cent) The predisposition to a defect limiting the motion of the cervical spine must always be congenital Roent genography is of no diagnostic aid as ossification of the vertebræ does not occur until later It is not correct to seek the causes of the extended head posi tion in the mother and to assume that they agree with those of the transverse position There is con siderable evidence that the extended position is not the result of accidental associated conditions The causes for the extended head position mentioned in textbooks such as the premature escape of fluid coiling of the cord about the neck and congenital struma do not hold

It will depend upon the strength of the forces of labor whether the resistance which is met will be overcome Only in the occiput posterior presenta tion will the possibility of extension of the cervical vertebræ not be utilized against the existing labor pains On the other hand there is always flexion which explains the difficulty of labor with this posi tion in spite of strong labor pains The *Sellheim* theory of force in flexion is entirely correct Occa sionally it may be so powerful that the child makes extension movements of the head as a defense reac tion against the uncomfortable position The fact that children born in the extended head position are often oversized is explained by the more advanced development of the bones and cartilages of the spine

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Isbruch F *Bacteriological Investigations* to Prove the Bacterial Sterility of the Gravid Uterine Cavity Is There a Latent Bacterial Endometritis (*Bakteriologische Untersuchungen zur Pruefung der Keimfreiheit der graviden Uterushoehle Gibt es eine latente Mikrobenendometritis*)? *Arch f Gynaek* 1928 cxxxv 108

In twenty four cases of pregnancy the author examined the amniotic fluid decidua and placenta for aerobic and anaerobic bacteria and studied the placenta and decidua histologically In fifteen cases the material was obtained at cæsarean section at the normal termination of pregnancy and in nine cases at laparotomy with opening of the uterus performed for some reason or other between the third and ninth months of pregnancy In addition the author made similar studies on six pregnant rabbits killed shortly before the termination of pregnancy

The very exact experiments the bacteriological tests and the differentiation of the bacteria and determination of their virulence are described in detail

The histological examinations of the placenta and the decidua showed no inflammatory changes in any case

The animal experiments indicated absence of bacteria from the uterine cavity In four rabbits the cavity was absolutely sterile and in two it contained only air carried bacteria

In six uteri opened during pregnancy absolute sterility of the amniotic fluid was found three times The decidua and placenta showed only air bacteria except in one instance in which Gram negative bacteria (virulence test negative) were found in the culture from the decidua

Among the eighteen cases in which cæsarean section was done there was one case of perforative peritonitis with free pus in the abdominal cavity (without histological changes in the decidua and placenta) This case has no bearing on the question under discussion In nine cases all of the cultures were sterile although here again as in the preceding group each case showed an abscess of the abdominal wall

In one case of eclampsia which ended fatally on the fifth day from peritonitis air staphylococci and hay bacilli were found in the placenta as contaminations but the cultures from the decidua and amniotic fluid were sterile Two additional cases with air bacteria in the cultures of the decidua or placenta are to be considered as practically sterile Also in three cases in which lactic acid streptococci were demonstrated in the amniotic fluid and decidua (uterus abdominal wall fistula) anaerobic lactic acid bacteria were found in the placenta (abdominal wall abscess fæcal fistula peritonitis and death) and anaerobic staphylococci and staphylococcus albus (apathogenic with abscess of the abdominal wall) were found once each The bacterial findings are satisfactorily explained by the prolonged duration of labor with the presence of a latent bacterial endometritis

In one case the author found pathogenic hamolytic staphylococcus aureus (Porro section with the amniotic sac intact followed by an abscess of the cul-de sac of Douglas) and in another case ending fatally on the fourth day from peritonitis he discovered anaerobic lactic acid streptococci in the decidua which however must be considered as bacteria brought to the field

Isbruch draws the following conclusions

Up to the time of labor the uterus is free from bacteria Pathogenic or potentially pathogenic bacteria may be present in the placenta or decidua after a labor of short duration or before or just after rupture of the amniotic sac without indicating the presence of a latent bacterial endometritis Against the presence of the latter condition is the complete absence of all inflammatory phenomena in the decidua and placenta KIEFER (G)

Svenningsen O K Experiences with Ruge s Virulence Test (Erfahrungen mit der Ruge schen Virulenzprobe) *Hosp Tid* 1928 ii 807

The author applied Ruge s and Philipp s virulence test to seventy two women immediately before childbirth A bent glass tube was employed to remove the secretion from the vagina In the cases of twenty women streptococci were found in the vaginal secretion Eighteen times the first degree of vaginal flora purity was present thirty four times the second and twenty times the third Only once were highly virulent streptococci demonstrated In five cases in which streptococci of doubtful virulence were found there was fever in the puerperium The woman who harbored highly virulent streptococci suffered from subinvolution of the uterus after delivery Because of continued hæmorrhages with expulsion of blood clots evacuation of the uterus with the blunt curette was done The virulence test was made at this time The patient died from puerperal peritonitis five days later If the virulence test had been made earlier the evacuation would probably not have been done

The virulence tests were applied by the author also in twenty six cases of abortion In twenty four cases avirulent bacteria were found In seventeen cases the course was afebrile In nine cases the temperature rose above 38 degrees C but in only one case each were streptococci of doubtful and high virulence discovered The patient with the highly

should therefore receive it within from thirty six to forty-eight hours As antitoxin is of little if any value in far advanced infections and as severe and even fatal cases of puerperal fever may appear mild at the onset it is well to give the antitoxin early in all cases

In a series of cases of puerperal fever which were treated with the antitoxin the mortality was 32 per cent whereas in a control group reported by Lash it was 61 per cent and in a group reported by Fitzgibbon and Bigger 51 per cent

T L Cornell M D

Ferrari Houel and Jahier Postpartum Puerperal Infection Subtotal Abdominal Hysterectomy Pelvic Thrombophlebitis Ligation of the Two Common Iliac Veins by the Subperitoneal Route Recovery (Infection puerpérale post partum hystérectomie abdominale subtotale thrombophlébite pelvienne ligature des deux veines iliaques primitives par voie sous péritoneale guérison) *Bull et mém S c nat d chir* 1928 liv 1360

Proust who reported this case before the Society said that in his opinion its chief interest lay not in the subtotal abdominal hysterectomy the indications of which are well established but in the results obtained by the ligation of the two common iliac veins which were excellent The ligation was done by the subperitoneal route because infection of the abdominal hysterectomy wound contra indicated transperitoneal ligation It was accomplished with ease and was followed by immediate cessation of the chills and signs of embolism There was no œdema of the legs Audrey G Morgan M D

MISCELLANEOUS

Stieve H Vaginal Wall and Vaginal Orifice During and After Labor (Scheidenwand und Scheidenmund während und nach der Geburt) *Jahrb f Geburtsh u Gynäk* 1928 xiii 441

By vaginal orifice Stieve means that part of the vagina and vestibulum which is surrounded by the muscle groups of the pelvic floor and are usually closed In cadavers the two femoral veins were injected with a strong formalin solution and three days later the body was frozen and sawed through in the midline longitudinally in order to determine the topographical relationships and secure sections for histological examination In this way the filling and the arrangement of the blood vessels of the vagina could be easily seen

In the non pregnant state a tough connective tissue with abundant veins of not very wide caliber is found in the walls of the vagina under a thick layer of epithelium Soon after labor this is replaced by erectile tissue with unusually wide veins These veins anastomose with each other and are separated only by a very thin layer of loose connective tissue Next to them externally is the muscle layer the base of which consists of loose connective tissue The epithelial covering is thin The importance of this cavernous body is clear During pregnancy it assures closure of the enlarged vaginal lumen and with the passage of the fetal head during labor the blood is pressed out from the loose connective tissue whereby the vaginal lumen is enabled to pass the fetal body without difficulty A similar cavernous body is exhibited by the vaginal orifice Excellent sections—also from frozen cadavers—made vertically through the vaginal orifice showed this body as well as the behavior of the bulbus vestibulum vaginæ the clitoris the urethra and the perineum

In the non pregnant state the vaginal wall is made up principally of a tough connective tissue with numerous fine veins The plexuses of the bulbus vestibulum and clitoris anastomose with each other Between them lies the urethra likewise rich in veins When a firm body is inserted into the vagina (coitus) the walls of the vagina expand the expansion taking place chiefly anteriorly and laterally (posteriorly the strong perineal musculature hinders marked expansion) the lateral venous plexuses are emptied and the blood filling in the clitoris is increased In pregnancy all of these cavernous parts as well as those of the vaginal wall develop markedly With the passage of the fetal head in labor they give way without trouble On the other hand the perineum which is composed of striated muscle tissue (not so easily stretched as smooth muscle) and contains only a few vessels offers resistance Hence tears about the vaginal orifice occur most frequently in the perineum The anatomical arrangement of the vessels explains also why the perineal tear bleeds so relatively little

In conclusion the author calls attention to the fact that the peculiar course of the venæ pudendæ internæ assures the egress of the blood from the cavernous tissues at the exact time when the head begins to stretch the vaginal orifice These veins with the corresponding arteries and nerves surround the pelvic outlet and re enter the pelvis above the level of its narrowest part

Von Mikulicz Radecki (C)

which interferes with mobility The asphyxia frequently occurring when the head is in the center or the outlet of the pelvis is explained by the forced flexion of the spine by the forces of labor which causes vagal stimulation from pressure upon the spinal cord This asphyxia is relieved as soon as the head is released Pressure of the levator plate upon the head is not a factor Children born with the head extended show a slight curvature of the cervical spine in the sense of deflexion even after birth and resist forced flexion

Roentgenography shows that in children with deflexion the mobility of the atlas with the occiput is limited or absent but that on marked stretching of the neck the arch of the second cervical vertebra separates from the first vertebra On overextension of the head to the face presentation the atlas shows marked mobility anteriorly whereas the rest of the cervical vertebræ up to the fourth are rigid so that deflexion of the cervical spine to the dorsal spine forms a sharp almost kink like angle The power of flexion of the head therefore depends upon normal development of the first and second cervical vertebræ and mobility of these vertebræ with each other and with the occiput If mobility in the anterior direction is not reduced by defective development and mobility in the posterior direction is deficient the head may sometimes assume the extended position before the onset of labor (primary deflexion) but it certainly does so later under the pressure of the forces of labor the degree of extension depending upon the abnormal structure of the cervical spine

The deep transverse position of the head is not due to the pelvic and muscular structure (at least only rarely and to a slight extent) but to deficient labor pains which the resistance of the fetus (against flexion or extension) cannot overcome The cause of the deep transverse position in the contracted pelvis is not the descent of the large fontanelle (in flat pelves) but a pelvis that is too low In such a pelvis the extended head can be brought into the straight position only with the greatest protrusion of the pelvic floor for which especially strong labor pains are necessary A funnel shaped form of the flat pelvis is not the cause Neither are protruding ischial spines responsible for the extended position of the head The generally contracted pelvis with a funnel shaped outlet plays only a minor rôle in occiput posterior presentations

In the author's opinion there is one uniform genesis for all degrees of the extended head position namely the structure of the cervical vertebræ

SIEGERT (G)

Kleff G A Case of Complete Circular Avulsion of the Portio Vaginalis During Labor (Ein Fall von vollständiger zirkulärer *Abstos ung der Port o* vaginalis sub partu) *Zentralbl f Gynaek* 1928 p 3229

A protracted labor following premature rupture of the membranes and lasting more than fifty four hours in the case of a woman thirty seven years of age resulted in avulsion of the portio vaginalis which had a diameter of 10 cm and a thickness of 2 cm The mature child was born spontaneously fifteen minutes later There was no bleeding The puerperium was normal On subsequent examination of the patient an ectropion was found at the site of the portio in the center of the cervical os As no other pathological condition was evident and the patient was a primigravida of advanced age the author assumes that the cause of the avulsion was the primary rigidity of the cervical os supplemented by the premature rupture of the membranes The forensic significance of such a spontaneous amputation is emphasized

VON WEINBERG (G)

PUERPERIUM AND ITS COMPLICATIONS

Lash A F The Therapeutic Value of a New Concentrated Streptococcus Antitoxin in Puerperal Fever *Am J Obst & Gynec* 1929 xvii 29

The puerperal fever streptococcus antitoxin possesses specific value in acute endometritis with septicæmia due to the hæmolytic streptococcus It causes a favorable response also in infections due to non hæmolytic streptococci Its potency as determined by toxin neutralization (Dick method) and by comparison with the potency of scarlet fever antitoxin of known therapeutic value shows a titer equal to that of the scarlet fever antitoxin The antitoxic power increases with further immunization of the animals

The fact that small doses of the concentrated antitoxin produce favorable clinical therapeutic results without immediate reactions is evidence of a specific rather than a non specific action Further evidence of therapeutic specificity is the fact that with increasing potency of the serum correspondingly smaller doses give equivalent results The larger amounts of serum used in the author's earlier work were probably superfluous as the only index then employed for repetition of the dose was fever To use fever as the only guide for serum therapy may be misleading since the antitoxin may overcome the toxæmia and thereby allow the leucocytes to overcome the streptococci without causing an immediate drop in the fever In spite of the hyperpyrexia the patient's general improvement influences the defense mechanism favorably thereby permitting localization of the infection to the pelvis

In the use of the concentrated antitoxin immediate reactions are uncommon and serum sickness occurs only when large doses are given At times however large doses are necessary The serum sickness can be controlled by drugs The antitoxin is not harmful Its lack of an irritating effect is evident in that it causes no symptoms indicating a disturbance of the kidney or other parenchymatous organ

This antitoxin is comparable in its efficacy in the treatment of puerperal fever to diphtheria scarlet fever and tetanus antitoxin in the treatment of diphtheria scarlet fever and tetanus respectively A woman developing symptoms of puerperal fever

occurred in the authors experience was in 1912 and the patient is still in good health In this case the ureter was completely sectioned and end to end suture was done

Important points in the technique of end to end anastomosis are accuracy of the suturing and the formation of a peritoneal cuff Suture alone is not sufficient it must always be reinforced The peritoneal cuff acts as a transplant This is the method of choice also because of the ease of its execution

Accidental section of the ureter may occur in most gynecological operations Hysterectomy especially by the vaginal route and laparotomy for cancer uterine fibroids cysts tumors of the ovary and pelvic inflammatory disease all endanger the ureter In the liberation of adhesions a ureter may be mistaken for a vein and sectioned between ligatures or included in a band of adhesions Section of the ureter has occurred also in section of the broad ligament In the authors case the ureter was displaced in front of an intraligamentous cyst and therefore not recognized

WILLIAM R MEEKER M D

BLADDER URETHRA AND PENIS

Mertz H O and Smith L A Spina Bifida Occulta Its Relation to Dilatations of the Upper Urinary Tract and Urinary Infections in Childhood *Radiology* 1929 xii 193

The authors emphasize that the interpretation of a supposed embryological defect in the lumbosacral posterior laminæ requires special care They cite Brickners review of the various conditions which may accompany spina bifida occulta and cause remote neuromuscular *symptoms*

Symptoms are dependent upon compression of the cord and its roots and degeneration of the cord tracts This explains why spina bifida occulta is sometimes associated with symptoms and sometimes is not The urinary symptom most frequently ascribed to spina bifida occulta is urinary incontinence usually enuresis Bladder retention with or without loss of control of the vesical sphincter has also been reported

The authors urge close co operation between the urologist the roentgenologist and the neurological surgeon in the study of a case of spina bifida

They report nine cases and list an extensive bibliography JOHN P O NEIL M D

Mathé C P Fatal Embolus Due to Inflation of Bladder with Air *Surg Gynec & Obst* 1929 xlviii 429

The author reports a death from air embolus following the injection of 300 c cm of air into the bladder preliminary to an operative procedure A hissing sound was heard in the bladder for a few seconds and immediately thereafter the patient went into profound shock and the pulse and respiration ceased Stimulants and the use of *artificial* respiration over a period of thirty minutes were of no avail

Autopsy showed bubbles of air in the iliac veins the mesenteric vessels the vena cava and the renal veins The lungs the liver and the right chambers of the heart contained a coarse froth of air At the base of the bladder there was an adenocarcinoma which had allowed the entry of air into the veins

The author reviews the literature on the occurrence etiology and pathology of air embolism the experimental work which has been done on animals with regard to this condition and the various theories as to how death is caused by emboli

Increased intravesical and intra urethral pressure is favored by prostatic hypertrophy such as was present in the case reported and by stricture formation which prevents the escape of air between the walls of the urethra and the indwelling catheter or cystoscope Rupture of the vesical mucosa by over distention or the presence of a pathological lesion weakening the bladder wall such as marked inflammation an ulcer or a neoplasm favors the entrance of air into the venous circulation

Undoubtedly mild symptoms consisting of restlessness and transient changes in the respiratory and cardiac action have been overlooked as has also the cause of the fatal termination in such cases Death is due to the arrest of the pulmonary circulation to gaseous distention of the right heart which prevents function of the tricuspid and pulmonary valves to anæmia of the vital centers of the brain resulting from a reduction in the blood reaching the left ventricle and to stasis in the coronary vessels

The most effective *treatment is immediate release* of the air pressure in the bladder artificial respiration and injection directly into the right heart of 2 c cm of a 1 1,000 solution of adrenalin

The author believes that inflation of the urethra and bladder with air for diagnostic therapeutic and operative *procedures* should be abandoned and the use of harmless sterile water and mild antiseptic solutions *substituted* HENRY L SANFORD M D

Foley F E B *The Diagnosis and Classification* of the Various Forms of Bladder Neck Obstruction *Minnesota Med* 1929 xii 137

The causes of obstruction of the neck of the bladder include benign and malignant enlargement of the prostate median bar formation contracture due to fibrosis vesical calculi tumors foreign bodies hypertrophy of the trigon disturbances of innervation by such conditions as tabes *transverse myelitis* and neoplasms of the spinal cord and fractures and injuries of the spine or bony pelvis

The operative treatment should be based upon the history the findings of the physical examination *chemical* examination of the blood and the type of the obstruction as determined by cysto urethroscopy MAURICE I MELTZER M D

Broun A Paracystitis (Ueber Paracystitis) *Arch klin chir Arch* 1928 xvi 40

Paracystitis is a fairly rare clinical finding and is seldom discussed in the literature On the basis of

GENITO-URINARY SURGERY

ADRENAL KIDNEY AND URETER

Salleras J Cystic Adenoma of a Papilla of the Left Kidney with Very Prolonged Hæmaturia Nephrectomy Cure (Adenoma quístico de papila renal izquierda hematurias muy prolongadas nefrectomía curación) *Semana méd* 1928 xxxv 414

In the case reported the principal complaint was hæmaturia of several months duration Cystoscopic examination showed the hæmorrhage to be confined to the left side The pyelogram showed a normal pelvis with calyces failing to fill and presenting a flattened appearance such as would be produced by external pressure The right kidney was normal in all respects

The left kidney was removed and subjected to pathological study On gross section a cystic growth in a papilla was found Microscopic examination of this tissue showed atrophy of the tubules with increased fibrous tissue surrounding the growth In the center the tissue was highly vascular and there were uriniferous tubules of large size with a pale epithelial lining and still larger tubules lined with pavement epithelium Some of the tubules were distended to the size of cystic cavities and filled with granular and flocculent urinary sediment The diagnosis was cystic adenoma with a fibrous wall probably inflammatory WILLIAM R. MEEKER M D

Bugbee H G Leiomyoma of the Kidney Report of a Case *J Urol* 1929 xxi 363

Bugbee reports the first case of leiomyoma of the kidney found during life The literature reports two other such tumors which were discovered accidentally at autopsy

The author's case was that of a woman thirty years of age who had noticed a lump in the right side of the abdomen for twelve years The mass was the size of a large grapefruit round smooth slightly tender and movable The pyelogram of the right kidney showed no dilatation or distortion suggestive of renal tumor The urine from each kidney was negative A diagnosis of solitary cyst of the kidney was made Nephrectomy was performed and followed by uneventful recovery

In the lower pole of the removed kidney there was a large sharply circumscribed tumor enclosed in a thin fibrous capsule Sections showed smooth muscle tissue There was no histological evidence of malignant degeneration JACOB S GROVE M D

Frater K and Braasch W F The Incidence of Stricture of the Ureter *Surg Gynec & Obst* 1929 xlviii 390

The incidence of lesions in the ureter is greater than has been previously recognized The infectious origin of stricture of ureter is not so common as recent articles suggest This is evident because no stricture of this type was found in ninety three autopsies

The caliber of the normal ureter as ascertained by the passage of bulbs varies from No 8 to No 20 French The most frequent site of greatest anatomical narrowing in the normal ureter is in the first 4 cm from the ureteral orifice which corresponds to the area in which most reported strictures have been found Lack of symmetry in the two ureters is common In several instances the caliber of one ureter was 50 per cent greater than that of the other although both ureters were normal on gross and microscopic examination

Because of the variability in the caliber of the lumen of the normal ureter the difficulty of recognizing a stricture by means of bulbs or sounds larger than No 9 French is obvious The demonstration of areas of ureteral dilatation even when they occur proximal to a portion of the ureter with a comparatively small lumen does not necessarily indicate stricture The dilatation in such cases may be atonic and the result of intrinsic cicatrical changes in the wall of the ureter

Microscopic areas of lymphocytic infiltration regarded by some observers as indicative of stricture cannot logically be so classified since they lack all of the gross and microscopic criteria of stricture

That stricture is not necessary to the formation of renal or ureteral stone is shown by two cases in which evidence of a lesion in the ureter could not be found on gross or serial microscopic section

In at least eight of the cases reviewed there were symptoms of urinary disturbance and in several instances palpation of the ureteral area revealed tenderness In none of these could any evidence of ureteral stricture be found In none of the cases was there evidence of the so-called wide stricture If such strictures are common as claimed it must be inferred that they may exist without leaving any trace even in microscopic sections of the ureteral wall

The occurrence of stricture of the ureter of infectious origin is generally recognized Although the material in this study is inadequate to determine the frequency of the condition it nevertheless shows that the incidence of stricture is not so great as recent postmortem studies indicate and that the diagnosis of stricture by clinical methods now employed may be inaccurate

Irlarte L. and Cernadas P V End-to-End Anastomosis of the Ureter After Accidental Section ing (Anastomosis terminoterminal del ureter por accidente operatorio) *Semana méd* 1928 xxxv 39

Section of the ureter in the course of a surgical operation is a rare accident The only time it

hours Backache referred to the inguinal region and the testes had been present for three years For three months there had been attacks of very severe pain in the testes and groins lasting for several hours and relieved by scrotal support This pain was most severe in the left testicle

On rectal examination the prostate was found normal but above it there was a very hard area of infiltration extending to the bony pelvis on the left side and seemingly fixed to the left seminal vesicle Urinalysis revealed albumin blood and pus

Cystoscopic examination was not successful on account of the necrotic tissue and old blood clots which filled the fenestra making irrigation impossible The pre operative diagnosis was carcinoma of the bladder

At operation the bladder was opened and cleared of old blood clots and necrotic tissue There were no tumors in the bladder but a papillary tumor protruded from the opening of a diverticulum on the posterior wall The diverticulum was removed It was firmly adherent to the left seminal vesicle No metastases were apparent in the abdominal cavity Radium was applied to the cavity remaining after removal of the diverticulum The diverticulum was found to be completely filled by the papillary carcinoma

The postoperative course was uneventful but the patient died one year later

The authors review the cases of carcinoma in diverticula reported in the literature The condition occurred in adult life The chief sign was hæmaturia Pain on urination was not very constant In several cases there was retention of urine The finding by rectal examination of a hard induration above the prostate was recorded Cystoscopy was of great aid in the diagnosis when a satisfactory view of the bladder could be obtained The diagnostic value of cystography depended upon the presence of a filling defect in the diverticulum

A correct pre operative diagnosis was made in eight cases The best treatment is radical surgery Operation may be supplemented by the application of radium in the cavity left after removal of the diverticulum The end results of surgery have been disappointing In the cases reviewed the duration of life following operation ranged from six days to twenty nine months In nine of ten cases in which the carcinoma in the diverticulum was resected the tumor recurred in the bladder

J Edwin Kirkpatrick M D

Campbell M F Stricture of the Male Urethra *J A M A* 1929 lxxxix 379

The author reviews 1 244 cases of stricture of the male urethra which were treated on the Urological Service of Bellevue Hospital New York in the period from April 1910 to January 1928 Over 90 per cent of the strictures were of gonococcal origin and only 1 9 per cent were traumatic Three hundred and forty-eight of the patients had been operated upon previously—317 once and 31 two or three times

Eight hundred and forty eight of the patients were treated surgically Internal urethrotomy was done 143 times external urethrotomy 433 times and combined external and internal urethrotomy 310 times One thousand and ninety three of the patients were discharged in an improved condition Nine were not benefited Ninety nine died Thirteen of those who died were not treated surgically The operative mortality exclusive of cases of urinary extravasation was 4 9 per cent

Spinal anæsthesia has been preferred since 1920 Seventy one internal urethrotomies were done under local novocain anæsthesia

With regard to the prevention of urethral stricture the author emphasizes that gentleness is of the utmost importance in urethral instrumentation and that it is better to under treat than over treat cases of acute urethritis Most patients with urethral stricture are benefited by operation but one third of these will require re operation and two thirds of the latter will require re operation within ten years It is imperative to keep up dilatation of the urethra after urethrotomy Maurice I Meltzer M D

Campbell M F Periurethral Phlegmon (Urinary Extravasation) A Study of 135 Cases *Surg Gyn & Obst* 1929 xlviii 382

The author reviews 135 cases of periurethral phlegmon commonly known as urinary extravasation which were treated at Bellevue Hospital New York in a period of thirteen years

In all but 7 cases the condition occurred as a complication of gonorrhœal stricture of the urethra Two of the patients were infants Twenty had been operated upon for stricture previously In 4 cases the condition followed a straddle injury of the perineum In all of the cases infection plus urethral stricture or trauma were the activating causes

The bacteria isolated were the streptococci staphylococci colon bacilli perfringens bacilli and anaerobes The clinical diagnosis was based on the findings of inspection and the history of urinary obstruction Because of the fulminating nature of the infection early treatment is imperative The marked renal injury renders the prognosis unfavorable

The treatment is always surgical It should consist in sidetracking the urine by suprapubic drainage and multiple free incisions for drainage of the infected regions

Postoperative complications are frequent Constant dilatation of the urethra is essential to prevent recurrence J Sydney Ritter M D

GENITAL ORGANS

Scholl A J and Verbrugge J Primary Adenocarcinoma of the Epididymis (Adéno-carcinome primitif de l'épididyme) *J d urol méd et chir* 1929 xxvii 4

Primary solid tumors of the epididymis are rare Primary carcinoma of the epididymis is especially

the topographical and anatomical relationships of the tissues surrounding the bladder and the classification of the inflammations occurring in these tissues cases of paracystitis may be divided into the following four groups (1) phlegmons of the rectus abdominis muscles and their sheaths (2) phlegmons of the space of Retzius or pre umbilicovesical paracystitis (3) phlegmons of the paravesical connective tissue and (4) inflammation of the retrovesical peritoneum pericystitis

Phlegmonous inflammations of the rectus muscles and sheaths constitute separate clinical diseases and are not considered here The other types develop as a rule not as individual inflammations sharply differentiated from one another but as mixed forms so that for practical purposes their classification into paracystitis and pericystitis appears most serviceable

In the etiology of the disease general and local infections play an important part In two of the author's four cases the cause of the disease was grippe in one osteomyelitis of the pelvis and in fectious coxitis and in one catheterization

From the pathologico anatomical standpoint there are three forms of paracystitis the congestive the sclerotic and the suppurative In the first spontaneous resorption often occurs The two others lead to the formation of abscesses which sometimes reach an enormous size

The clinical picture is not characteristic The symptoms include severe general disturbances (chills fever difficulty in urination and pain in the hypogastrium) pain behind the symphysis and obstipation Palpation in the absence of a tumor reveals tenderness and resistance above the symphysis Cystoscopy and cystography often yield very valuable information which sometimes is decisive (evidence of rupture of an abscess into the bladder œdema and infiltration of the bladder wall etc)

The treatment is at first conservative Later operative incision and drainage are indicated All of the author's patients recovered ALIPOV (Z)

Bothe A E The Differential Pathology of Papilloma Papillary Carcinoma and Other Types of Vesical Carcinoma *Penn sylvania M J* 1929 xxxii 393

Haines W H The Treatment of Bladder Tumors *Pennsylvania M J* 1929 xxxii 402

Harrison F G End Results of Carcinoma of the Bladder and Prostate Gland *Pennsylvania M J* 1929 xxxii 407

Because of the lack of agreement between urologists and pathologists regarding a uniform classification of bladder tumors BOTHE suggests the following grouping based on histological findings

1 Benign growths adenoma angioma fibroma lipoma leiomyoma dermoid rhabdomyoma myxoma and papilloma

2 Malignant growths malignant papilloma adenocarcinoma infiltrating carcinoma epidermoid carcinoma and sarcoma

The author states that the grading of epithelial malignancy of the bladder according to the system advocated by Broders is of prognostic value As a bladder tumor is as malignant as its most malignant area he stresses the importance of making sections from as many regions of a tumor as possible

Extension and metastases of bladder tumors occur relatively late As a rule carcinoma of the bladder causes death from hæmorrhage renal damage or cachexia before metastases are recognized When the disease is in the late stages and rapidly extending the metastases may involve the regional lymph nodes and the inguinal lymph nodes

HAINES reviews the recognized methods of treating bladder tumors—fulguration radium and X ray therapy and surgery He believes that X ray therapy should precede any other treatment Endovesical fulguration preceded by X ray therapy is the best treatment for papillomata and early papillary carcinoma When there is infiltration when the subject is a good risk and when the tumor is favorably situated and its removal does not necessitate ureteral transplantation resection preceded by X ray therapy is advisable

In inoperable cases X ray therapy followed by intensive diathermy by cystotomy is the author's choice Haines states that radium irradiation has accomplished little in prolonging life has added to the morbidity and has hastened death

The plan of therapy should be based on a simple and uniform classification of tumors

HARRISON reviews 178 cases of carcinoma of the bladder and 48 cases of cancer of the prostate

In selected cases of carcinoma of the bladder resection of the bladder and transplantation of the ureters gave the best results In cases not too advanced with no evidence of metastases a combination of cystotomy diathermy and X ray irradiation was used Advanced cases were treated only by palliative measures

In the cases of carcinoma of the prostate in which the carcinoma was still confined to the capsule surgery gave the best results Of the cases treated by a combination of radium implantation and X ray therapy the symptoms were relieved and life was prolonged in more than 70 per cent

MAURICE I MELTZER M D

Kretschmer H L and Barber K E Carcinoma in a Bladder Diverticulum Report of a Case and a Review of the Literature *J Urol* 1929 xxi 381

Tumors are among the rarest complications of diverticula of the urinary bladder In the literature only twenty cases of carcinoma of diverticula have been reported

The authors report the case of a man fifty-one years of age who for a year had attacks of painless hæmaturia lasting for several days Between the attacks the urine was entirely clear For several years the patient had suffered from frequency of urination and from nocturia occurring every two

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES TENDONS ETC

Pollack W E McKenney P W and Blaisdell F E The Viability of Transplanted Bone An Experimental Study *Arch Surg* 1929 xviii 607

It is well known that when a piece of bone is excised and then buried in the tissues of an animal new bone formation takes place in the transplant but it is still undetermined whether the transplant itself survives and proliferates or acts merely as a stimulus to the surrounding tissue and a framework for the new bone formation

Rohde concluded from his experiments that bone building power is found only in specific bone building tissues—osteoblasts of the periosteum and marrow endosteum—and that metaplastic bone building does not take place from the ordinary connective tissue of the musculature muscle septa tendons fascia or subcutaneous tissue Haas believes that the transplant survives and possesses inherent active and independent regenerative powers Phemister found that a fracture through a transplant unites by callus formation Janeway discovered a deposit of new bone about the newly formed blood vessels in transplants

In experiments on dogs the authors attempted to grow bone in the soft tissues by enclosing rib transplants in a membrane that would prevent the passage of cells but still permit the dialysis of nourishment necessary for living tissues

Three groups of experiments were carried out In one the bone was wrapped in a thin layer of membrane from the inner surface of an onion leaf in another it was covered with a collodion cover and in the third it was not covered Eight dogs were used

New bone formation in the rib transplants occurred only in segments transplanted alive and only when the transplant itself became surrounded by well vascularized fibrous tissue Death of the transplant invariably occurred when a membrane prevented the ingrowth of fibrous tissue and blood vessels The onion membrane proved impervious to the infiltration of blood vessels whereas the collodion was perforated ROBERT V FUNSTON M D

Bowler J P and Boardman J J Staphylococcus Septicæmia with Metastatic Osteomyelitis *New Engl J Med* 1929 cc 317

The authors report the case of a thirteen year old girl who developed staphylococcic septicæmia four days after an abrasion of the knee Five days after the onset of the condition the blood cultures were positive and there was evidence of osteomyelitis of the clavicle

The treatment was varied consisting first in the administration of mercurochrome then in injections of serum from donors immunized against staphylococcus vaccine and then in the use of the staphylococcic antitoxin of Parker

The patient was discharged from the hospital on a stretcher on the ninety seventh day Subsequently two operations were performed for sequestra She is now able to walk with the aid of a cane

In early cases of multiple acute foci of osteomyelitis the diagnostic use of the roentgen ray is useless for when changes have developed the time at which drainage should be instituted has passed Large dressings should be applied and left intact until further surgery is indicated Immobilization in the position of rest with the use of sandbags and pillows and measures to prevent deformity are important factors

The authors believe that in the case reported the transfusions from donors immunized against the patient s autogenous vaccine were of most benefit

ROBERT V FUNSTON M D

Boehm F Synovial Osteochondromatosis and Trauma (Synoviale Osteochondromatosis und Trauma) *Deutsche Ztschr f Chir* 1928 ccxii 275

The author reports the case of a thirty year old mining official whose right knee was crushed six months previously between two cars carrying ore The accident was followed by swelling and pain The chief clinical finding was limitation of extension Roentgen examination and operation revealed lying free in the joint ten bodies of a cartilaginous nature which ranged in size from that of a pea to that of a bean Microscopic examination showed cartilage with calcium infiltration and in some places proliferated connective tissue with a few giant cells

On the basis of the literature the author concludes that osteochondromatosis is rare as he was able to find the reports of only eighty cases He believes that the condition is an entity to be distinguished from other joint conditions With regard to its pathogenesis he states that the inflammatory and embryological theories are to be rejected On the basis of the various stages of differentiation recognizable microscopically a benign new formation is to be assumed especially in view of the fact that the cell formations arise independently continue to grow independently and do not present a typical terminal stage A relationship of the condition to trauma cannot be denied although in more than half of the case histories no mention of trauma was made

Synovial osteochondromatosis occurs most frequently in the knee and elbow and in young males The loose bodies are formed only on the synovial

infrequent The case reported by the authors was that of a man twenty two years of age who came for treatment for severe pain in the right inguinal region with swelling of the testicle on that side Fourteen *months previously he had received a violent blow* on the right testicle during a football game and three months later he experienced a lancinating pain in the inguinal region of the right side The pain was constant and irradiated toward the scrotum Six months before his admittance to the hospital the patient noted a swelling of the scrotum and since then the size of the right testicle had doubled There had been no sign of urethral infection no fever, and no redness or inflammation of the scrotum The patient continued to work very energetically and lost 12 kgm

On examination the left side of the scrotum and its contents appeared normal On the right side the scrotum was distended fluctuating and transparent to light The right testicle was in about the center of a mass of fluid On puncture a citron yellow fluid was evacuated After puncture the testicle was found on palpation to be supple round *and slightly enlarged The epididymis which could* easily be palpated was entirely separate from the testicle very much enlarged nodular and irregular in contour A diagnosis of extensive acute tuberculosis of the epididymis was made

At operation the cord and testicle appeared normal but on microscopic examination the epididymis was found to be carcinomatous The testicle its attachments and the cord were therefore resected as far as the inguinal ring

The patient made a complete recovery from the operation but three months later he returned with a mass 2 cm in diameter in the lower angle of the wound At a second operation the stump of the cord the tumor and all of the neighboring tissues including the inguinal glands and the subcutaneous tissues *were removed* Recovery from the operation was followed by radiotherapy of the lower portion of the abdomen and in the region of the recurrence

Four months after the second operation the patient developed dyspnœa and cyanosis and 4 Liters of fluid were removed by puncture from the right side of the chest A roentgenogram showed a tumor about 6 cm wide situated at the hilum The fluid obtained by frequent punctures contained numerous metastatic cells

The two specimens taken at operation were epididymal tissue They were composed of a stroma of fibrous tissue surrounding irregular and elongated spaces filled with atypical epithelial cells with an arrangement clearly that of adenocarcinoma

It is of course impossible to state that the tumor was not primary in some other part of the body but the roentgenogram taken before the first operation revealed no abnormality in the lungs and the date of *appearance and the type of the symptoms* seemed clearly to indicate that it had its origin in the epididymis It might have sprung from testicular rests situated in the epididymis but its adenomatous structure was very different from that generally found in tumors of the testicle

The literature shows that tumors of the epididymis usually develop on the left side and in the tail or the body of the organ No tumor of the head of the epididymis has ever been reported

The article is supplemented with a bibliography of sixteen references PAGE

roentgen findings He discusses the nature of the disease the histological picture the symptoms and the differential diagnosis

In the differential diagnosis the roentgen examination is of most importance especially when in the advanced stages calcification of the cartilaginous proliferations has occurred In the presence of such calcification shadows in the region of the greatest distention of the capsule which resemble in arrangement a bunch of grapes or a sponge give a typical roentgen picture Another feature characteristic of chondromatosis is the absence of the changes in the ends of the joint and the lipping that are present in arthritis deformans

It is sometimes difficult to differentiate chondromatosis from osteochondritis dissecans in the roentgenogram if several years have passed since the formation of the loose bodies and the original focus in the bone can no longer be made out The differential diagnosis from sarcoma however is usually easy In sarcoma the shadow is generally more diffuse and there is a sprinkling of minute shadows cast by calcium deposits

Since in the great majority of cases of chondromatosis malignant degeneration of the lesion is not to be feared and as recurrences are rare the author recommends as the operation of choice total or partial synovectomy according to the extent of the disease Extracapsular resection or amputation is not justified COKKALIS (Z)

Perkins G Discussion on the Painful Shoulder *Proc R Soc Med* Lond 1929 xxii 548

Perkins discusses painful shoulder due to (1) adhesions around the joint (2) tendonitis (3) osteoarthritis of the shoulder joint and (4) subacute arthritis of the shoulder joint

Painful shoulder due to adhesions is characterized by limitation of movement through the outer half of the range of the joint It can be cured by manipulative surgery

Tendonitis is characterized by painful movements through a small arc in the middle of the normal range In the hyperacute stage it can be cured by operation and in the acute stage by rest in partial abduction

Osteo arthritis of the shoulder joint is characterized by pain on extreme movement It is incurable but can be alleviated by physiotherapy

Subacute arthritis of the shoulder joint is characterized by muscle spasm at the beginning of movement It should be treated by rest on an abduction splint and the eradication of septic foci

H LARLE COWELL M D

Willis T A An Analysis of Vertebral Anomalies *Am J Surg* 1929 vi 163

The author discusses phylogenetic developmental and acquired anomalies of the vertebræ

Those of the first group include complete and partial sacralization of the last lumbar vertebra complete and partial asacralization of the last sacral segment and enlarged transverse processes of the last lumbar vertebra impinging upon or articulating with the sacrum or ilium These anomalies affect the stability and mobility of the spine and represent stages in the evolutionary shortening of the column

Developmental anomalies are the result of defective ossification of the posterior parts of the vertebræ They consist in defective spinous processes absence of spinous processes and separation of the neural arches They favor sprain strain and spondylolisthesis

Acquired vertebral anomalies are the results of injury or disease The most frequent causes are fracture and arthritis Sacro iliac arthritis severe enough to cause actual fusion of the joint is surprisingly common

With regard to the clinical importance of vertebral anomalies the author states that complete sacralization or asacralization of a segment can have no other effect than shortening or lengthening of the column whereas unilateral sacralization articulation or impingement of transverse processes results in asymmetrical mobility and strength of the parts and predisposes to musculoligamentous injuries As the spinous processes and laminæ furnish anchorage to powerful ligaments and muscles the strength of the part is decreased when the vertebræ are defective

FREDERICK A JOSTES M D

Gunther L and Kerr W J The Radicular Syndrome in Hypertrophic Osteo Arthritis of the Spine An Analysis of Thirty Cases *Arch Int Med* 1929 xlii 212

The syndrome of stiff spine nerve root pains nerve root degeneration alterations of sensation and muscle atrophies with a radicular distribution was first described by von Bechterew thirty five years ago but the neurological aspect of the syndrome has received little attention

The authors give a minute description of the nerve roots and their variations in different portions of the spine

They describe radiculitis as an acute inflammation of the spinal nerve roots manifested by alterations of sensation or changes in muscle function which show by their distribution that the primary disease process is in the spinal root and not in the tracts and nuclei of the cord or a peripheral nerve trunk A root type of altered nerve function may be produced in many spinal diseases

Von Bechterew attributed the syndrome he described to pachymeningitis with mechanical compression of the nerve roots Leri also believed it to be of inflammatory origin Nathan concluded that subjective and objective sensory alterations of a radicular nature should be present in spondylitis deformans their degree and permanence depending on the severity of the perradicular exudation and the fibrosis subsequent to repair after subsidence of the inflammatory process

In exploratory laminectomies on a number of patients with nerve root and cord symptoms Parker

membrane never on the articular surface The diagnosis may be easily made from the roentgen picture Clinically there is no typical symptom but in advanced cases there may be symptoms resembling those caused by joint mice and chronic arthritis The treatment is operative removal of the loose bodies SONNTAG (Z)

Melchior E Tuberculous Articular Rheumatism (Tuberkuloeser Gelenkrheumatismus) *Ztschr f aerztl Fortbild* 1928 xxv 791

Melchior reports on the atypical form of tuberculosis described at length by Poncet In disagreement with Poncet he finds that the number of unmistakably proved cases is still small In all of such cases there are acute or subacute joint effusions which according to accepted opinion can by no means be considered specific and on further observation i e in their clinical course or on the basis of experiments on animals biopsy or autopsy reveal their tuberculous nature beyond question

It is especially emphasized that the peculiarity of this form of tuberculosis is to be found not in its pathologico anatomical features but in its clinical behavior All of the cases show at least a temporary acute or subacute phase In none of those with a purely chronic onset has proof of tuberculosis been adduced

The diagnosis can be made with certainty only by examination of an excised bit of synovial membrane

The treatment follows the rule for general treatment and is given preferably at a high altitude Roentgen irradiation of the diseased joint is recommended as a local measure BANGE (Z)

Freiberg J A Allergy as a Factor in the Production of Proliferative Arthritis *Arch Surg* 1929 xviii 645

Non tuberculous arthritis is of two types One type is characterized by marked deformity and usually occurs within the first three decades of life The other type has a far more insidious onset rarely results in crippling and usually occurs during the latter part of the fourth decade This article deals with the first type

From the orthopedic department of the Children s Hospital of Boston ten cases were chosen for special study In this series an infection of the upper respiratory tract or a gastro-intestinal disturbance had been present for several weeks prior to the onset of the joint symptoms In seven cases the lesion was in the hips and in three in the knees The treatment was practically the same in all cases varying only with special indications and the age of the child Its chief principles were regulation of feeding and regulation of intestinal elimination by catharsis and massage The maximum duration of signs and symptoms following treatment was sixty seven days (one case) and the average duration twenty six days During the period of six months or longer that the patients were under observation there was no recurrence of the symptoms and the affected joint could not be distinguished clinically from the unaffected joint

That the therapy was responsible for the rapid disappearance of the symptoms seems probable since cases of long standing were rendered symptomless after a period of three or four days This fact strengthens the hypothesis that the joint symptoms are due to some substance either formed in or absorbed from the intestinal tract

In experimental studies the author attempted to determine whether an extract made from the bacteria generally supposed to be associated with certain cases of arthritis will produce lesions in animals similar to those of so called proliferative arthritis in man It seemed best in these experiments to inject directly into the joint in order to eliminate unknown factors as far as possible The injections were made into the knee joints of rabbits An attempt was made also to determine the influence of various factors such as acidity and alkalinity of the solution the presence of a foreign protein and sensitization of the animals to a specific bacterial substance The bacillus dysenteriæ (Flexner) which does not produce an exotoxin was used Care was taken to eliminate trauma.

A monarticular arthritis was produced which simulated the proliferative type of arthritis in man The pathological changes bore a striking resemblance It had been shown by repeated intravenous injections that the extract was not highly toxic The production of the lesions was not influenced by the acidity or alkalinity of the filtrate Subcutaneous injections produced no lesions but caused a sensitization When mild joint trauma was caused by the injection of lactic acid subsequent repeated intra articular injections of the bacterial extract in another joint produced a mild inflammatory lesion in the joint which had been traumatized

The experimental arthritis appeared to be a local allergic manifestation of a generalized state of allergy to a specific bacterium or bacterial extract Dysentery arthritis and the exacerbations of chronic arthritis accompanying vaccine therapy suggest that proliferative arthritis in man is also a local manifestation of a bacterial infection That the site of infection in arthritis may be in the intestinal tract was indicated by both the cases and the experimental findings ROBERT V FUNSTO M D

Janker R Chondromatosis of the Joint Capsule (Ueber Chondromatose der Gelenkkapsel) *Deutsche Ztschr f Chir* 1928 ccxi 135

The disease picture described by Reichel is still frequently included with the picture of multiple loose bodies in the joint in arthritis deformans It should be thought of when signs of loose bodies are noted in association with marked and asymmetrical distention of a joint capsule The condition is not so rare as has been assumed It occurs more frequently in males than in females and is most common between the ages of twenty and thirty years

To sixty three cases collected from the literature the author adds nine others with characteristic

forth and Wilson concluded that there is a much greater chance for nerve involvement in the lumbo sacral region than in the sacro iliac region They called attention to the fact that although the fifth nerve root is the largest nerve root of all it passes through the smallest intervertebral foramen and is therefore compressed and irritated by any condi tion which reduces the lumen of the canal They pointed out also that the fifth root is directly an terior to the posterior articulation between the fifth lumbar vertebra and the sacrum and that therefore effusion within this joint might easily cause compression of the nerve

Putti has called attention to the variation in the articular facets in the joint between the fifth lumbar and the first sacral vertebræ Not uncommonly he has found one or both facets lying in a frontal plane instead of the sagittal plane characteristic of the thoracic region He has noted also that the fourth and fifth lumbar nerves possess the longest funic ular portion and that this portion unlike the in tra pinal portion does not lie within the arachnoid and is not bathed in cerebrospinal fluid Because of these facts the funiculus is exposed to external mechanical influences and because of the surround ing venous plexus it is affected by any congestion and stasis in the neighboring tissues

Valls believes that the pain of so called essential sciatica is a symptom of vertebral arthritis For its relief in mild cases he recommends the induction of hyperæmia in the lumbar region with Bier s appara tus and immobilization by means of a corset For severe cases he recommends laminectomy with re section of the articular processes that are responsible

In cases of essential sciatica there is usually a list of the body toward the affected side Marked tenderness is usually noted over the lumbosacral juncture but in muscular patients with severe con traction of the erector spinæ deep palpation may be difficult and the tenderness masked There is usually distinct tenderness over the gluteus medius just below the crest of the ilium Tenderne s may be present also back of the trochanter in the region of the gluteal fold The patient complains of a burning pain along the outside of the thigh corre sponding to the tensor fasciæ femoris In severe cases there is a burning pain on the outside of the calf extending beneath the external malleolus and down to the dorsum of the foot

Ayers treats cases of low back pain by the Hibbs fusion operation A midline incision is made to expose the spinous processes of usually the fourth and fifth lumbar vertebræ and the upper portion of the sacrum The muscles and periosteum are re moved and the facets exposed At this stage of the operation a good idea of the condition of the joint can be obtained The facets are curetted with a small curette to denude them of articular cartilage and slivers of bone are turned up from the sacrum with a Hibbs chisel Other slivers from the laminæ are turned downward The decision as to whether it is necessary to include the fourth lumbar vertebra in the fusion must be made beforehand This deci sion is based on the appearance of the facets

The wound is closed in layers and the patient put to bed without a cast At the end of ten days a plaster jacket is applied in extension with a pelvic belt having two straps to rotate the pelvis poste riorly and bring the sacrum into proper alignment with the spinal column that is to make the supe rior or bearing surface of the sacrum as horizontal as possible The patient wears the plaster jacket for six weeks At the end of that time it is removed and he is fitted with a spring back brace which extends up to include the shoulders

Ayers results from this treatment have been ex ceptionally satisfactory ANTHONY F SAVA M D

Badgley C E Displacement of the Upper Femoral Epiphysis Summary of Twenty Seven Studied Cases *J Am M Ass* 1929 xcii 355

Badgley discusses the etiology pathology and treatment of displacement of the upper femoral epiphysis and reports a study of the results in neglected cases of the condition He sums up his discussion of the etiology as follows

I believe that the anatomic factors appearing at the period of adolescence plus rapid growth and obesity which are at their height at this period make the union between the epiphysis and the neck of the femur a vulnerable one to a force producing hyperextension of the thigh Endocrine disturbances merely enhance the vulnerability of the union

With regard to the pathology he states that there has been little opportunity to study the pathological changes in the early cases of epiphyseal coxa vara He believes that operative reduction may be a means to increase our knowledge of the condition

In three neglected cases of displacement of the upper femoral epiphysis in patients fifty four fifty six and sixty four years of age there were the usual signs and symptoms of marked osteo arthritis of the hip with adduction and external rotation deformity coxa vara and almost complete loss of motion

The author discusses the treatment in (1) cases of separation without displacement (2) early cases of displacement, (3) advanced cases (4) healed cases in young adults and (5) old cases with osteo arthritic changes

In cases of separation without displacement a bivalved hip spica is applied with the leg in ab duction and slight internal rotation This is worn for six weeks Physical therapy and exercise are given early

In early cases of displacement the Whitman manipulative procedure is used and followed by fixation in a plaster spica for three weeks At the end of that time the cast is bivalved to permit baking and massage After six weeks exercise under water is begun At the end of eight weeks a walking caliper is applied This is worn for two months and then discarded gradually

Advanced cases with malunion are treated by operative procedures to correct the malalignment of

and Adson found that the hypertrophic process may be extensive without roentgenological evidence of its presence They concluded that the process is of an *inflammatory nature*

The authors report in detail their findings in thirty cases with symptoms indicating spinal root disturbances which were treated at the University of *California Hospital* The outstanding symptoms according to frequency were pain aching soreness and stiffness The authors describe the pain and its location in the various areas involved and call *attention particularly* to its similarity to the pain of various common visceral diseases A number of the patients had undergone various operations without relief

In the history of the chief complaint it is commonly found that the patient outlines the cutaneous distribution of the roots involved with anatomical accuracy

The chief symptom pain is dependent on (1) movement of the spinal column (2) relaxation of the supporting musculature of the spinal vertebræ and (3) mechanical factors which increase intraspinal pressure *such as coughing and sneezing*

Lumbar radiculitis with symptoms over the distribution of the fourth and fifth lumbar roots and in the first two sacral roots was found in twenty three of the cases reviewed

The diagnosis of the radicular syndrome with spinal osteo arthritis requires a carefully taken history and determination of the distribution of the symptom bearing areas as compared with that of the spinal roots and the peripheral nerves The radicular syndrome is characteristic enough to permit its clinical recognition ROBERT V FUNSTON M D

Fraser J Tuberculosis of the Spinal Column *Edinburgh M J* 1929 xxxvi 133

Tuberculous infection of the spine is most frequent in the area *from the second dorsal to the third* lumbar vertebra particularly in a segment embracing the tenth eleventh and twelfth dorsal and first lumbar vertebræ

The physical examination should include (1) observation of the patient s general appearance and nutrition (2) a study of the body attitude and gait (3) inspection of the spine (4) a permanent record *of the spinal outline* (5) *an investigation of active* and passive pinal movements (6) examination of certain areas of the body for cold abscesses (7) tests of the reflexes superficial and deep sensation and *motor function* (8) a record of compensatory pains occurring in the cranium thorax or pelvis (9) examination of the heart and vessels by the usual clinical methods and (10) anteroposterior and *lateral roentgenograms* of the segment of the spine containing the affected vertebræ

The author describes the nervous manifestations of Pott s disease

The treatment as regards the local condition should include fixation of the affected region until the process of holding is complete limitation of the degree of the angle of inflection and prevention if possible of the complications of cold abscess formation and paraplegia The author emphasizes that inflexion is responsible for dissemination of the caseous débris which leads to migration of the abscess H EARLE CONWELL, M D

Berchin F O Death from Asphyxia Caused by a Burrowing Abscess in Tuberculous Spondylitis (Todesfall durch Asphyxie als Folge eines Senkungsabscesses bei Spondylitis tuberculosa) *Ztschr f orthop Chir* 1928 l 368

The author reports a case of tuberculous spondylitis in which an abscess extending from the first dorsal to the first lumbar vertebra caused extensive destruction of the tenth eleventh and twelfth dorsal vertebræ and eroded the anterior side of the sixth seventh and eighth dorsal vertebræ The remains of the destroyed upper surface of the first lumbar vertebra was in contact with the remains of the tenth eleventh and twelfth dorsal vertebræ Death from asphyxia followed the taking of a cup of cocoa and a small roll

Autopsy revealed in the paravertebral cellular tissue an exudate which had hollowed out a number of pear shaped sacs between the sixth and twelfth dorsal vertebræ These sacs lay at the side of the spine and ascended to the second and third cervical vertebræ gradually becoming narrower toward the top of the spine The larynx trachea and bronchi were free from foreign bodies and presented no changes

The author states that while abscesses usually burrow in a caudal direction by well known paths and appear under the skin at characteristic sites in *the inguinal lumbar and gluteal regions taking the* direction of least resistance they occasionally move upward particularly if the downward route is blocked by firm adhesions as in the case cited *The author s case is the first to be reported* in which a focus situated so deep led to compression phenomena in the upper thorax LUAZ(Z)

Ayers C E Lumbosacral Backache *New England J Med* 1929 cc 592

Ayers reviews the recent literature on lumbosacral backache and reports on thirty six cases He states that a common finding in this condition is a destructive process of the lumbosacral cartilage and that arthritic involvement of the lumbosacral facets may alone cause back pain and sciatica

The anatomical parts upon which low back pain depends are the sacro iliac joint the lumbosacral joint and the sciatic nerve but the present tendency seems to be to emphasize the importance of the lumbosacral area and the involvement of the sciatic nerve rather than the sacro iliac joint upon which interest was formerly focused It has been stated that sacro iliac strain is only one fourth as common as lumbosacral strain and that the lumbosacral joint is the fulcrum upon which the weight *of the* body rests However from a recent study Dan

forth and Wilson concluded that there is a much greater chance for nerve involvement in the lumbo sacral region than in the sacro iliac region They called attention to the fact that although the fifth nerve root is the largest nerve root of all it passes through the smallest intervertebral foramen and is therefore compressed and irritated by any condi tion which reduces the lumen of the canal They pointed out also that the fifth root is directly an terior to the posterior articulation between the fifth lumbar vertebra and the sacrum and that therefore effusion within this joint might easily cause compression of the nerve

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Advanced cases with malunion are treated by operative procedures to correct the malalignment of

the head and neck The author prefers the double osteotomy of Wilson He emphasizes that non union may result unless the periosteal and synovial attachments of the posterior and inferior surfaces of the head and neck of the femur are preserved

With regard to healed cases of displacement in young adults Badgley states that the epiphysis may sometimes be replaced but it is frequently thinned out and the head has changed in shape so that replacement is impossible In such cases the Whitman reconstruction operation is of value

The author treats cases of old displacement with osteo arthritis by fusion if the operative risk is warranted Fixation of the hip in a spica gives temporary relief

Twenty seven cases are reported Of twenty cases in which manipulative treatment was used good results were obtained in nine In the seven cases treated surgically, good results were obtained in only two FREDERICK A JOSTES M D

Fraser J Minor Orthopedics of the Feet in General Practice *Brit M J* 1929 i 383

An effective and simple treatment for ingrowing toe nail consists in glueing to the nail a small oval piece of soft tin foil so that one edge is wrapped around and projects under the irritating edge of the nail and then treating the skin ulcer beneath the nail with an alcoholic dye solution

Hammer toe is best treated by a simple operation consisting in transverse incision over the dorsum of the flexor joint and excision of a wedge shaped piece of bone including the two articular joint surfaces After this operation the patient should wear a light aluminum splint strapped to the ball of the foot and to the toe until the joint becomes ankylosed in the straight position The extensor tendon should be divided by tenotomy If operation is refused or if the condition is in the early stages cradle strapping with adhesive may result in a cure One strip of adhesive is passed over the first phalanx of the hammer toe and under the first phalanges of the adjacent toes and a second strip is passed under the second phalanx and over the adjacent toes These two strips tend to straighten out the deformity and are much more comfortable than a splint

The author discusses hallux valgus at some length because he believes that it is practically always associated with flat foot and treatment of the latter condition is as necessary as attention to the toe He recommends that a transverse bar ¼ in thick be placed on the sole of the shoe just back of the metatarsophalangeal joints and a padded arch support within the shoe At night the patient should wear along the inner side of the foot an aluminum splint with loops attaching it to the toe and ankle to pull the great toe straight with the foot If the condition is treated surgically it is best to remove only the protruding portion of the metatarsal head or to attack the base of the first phalanx Removal of the whole metatarsal head shortens the longitudinal arch

Hallux rigidus or stiffness with pain in the first metatarsophalangeal joint on walking is also usually secondary to flat foot It is often relieved by raising the heel and correcting the flat foot Manipulation under anæsthesia followed by plaster fixation for several days in a dorsiflexed position has been recommended but is usually unsuccessful A better procedure is the use of a sole splint of metal to prevent flexion during walking The best surgical procedure is resection of the base of the first phalanx and the insertion of a pad of fascia from the medial side of the toe

March fractures of the necks of the second or third metatarsal bones are of interest because they are usually not associated with a definite injury and are classed as sprains They occur during walking and are probably due to bone atrophy resulting from diminution of the blood supply occasioned by repeated spasmodic contraction of the interossei muscles during prolonged walking A similar dancing fracture of the base of the fifth metatarsal may result from the pull of the peroneus brevis muscle with sudden eversion of the foot

Calcaneal spurs result from periosteal tears such as are produced by dragging on the attachment of the flexor brevis digitorum muscle when the periosteum is involved by a mild infectious process such as is present in osteo arthritis Such spurs may disappear spontaneously A thick felt pad with a cup-shaped depression should be placed on the sole over the site of the spur After operative treatment the spurs often reform and are more extensive than before

Koehler's disease of the tarsal scaphoid irregular ossification of the calcaneous and calcaneal bursitis are discussed briefly The author advises that after injury to the ankle joint a roentgenogram be made of both the affected and unaffected limbs in order that a sesamoid bone may not be mistaken for a fracture fragment CHESTER C GUY M D

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Allison N and Coonse G K Synovectomy in Chronic Arthritis *Arch Surg* 1929 xviii 824

The authors describe the function of the synovial membrane and review the history of synovectomy

In synovectomy on the knee as performed by them an incision is made in the midline of the extremity 4 in above the upper border and 3 in below the lower border of the patella The vertical incision turns to the mesial border of the patella ½ in above its upper border follows the border at this distance to the midline and then becomes vertical again running to the tubercle of the tibia When the joint is opened it is often possible to separate the synovial membrane from the capsule along the line of incision Below the patella the incision divides one corner of the patellar tendon and the infrapatellar fat pad in the midline The synovial membrane is then divided in the line of incision throughout its

length The patella is seized with holding forceps at the capsular margin and turned over the joint surface upward laterally to the femoral condyle The anterior compartment of the knee joint is then exposed the knee is flexed to a right angle and the tibial head crucial ligaments intercondylar notch and semilunar cartilage thoroughly inspected Removal of the synovial membrane is then done

The authors draw the following conclusions

1 Synovectomy is a useful operation in properly selected cases of polyarticular as well as monarticular arthritis

2 In practically all cases it relieves pain and enables the patient to resume weight bearing

3 Of the patients whose cases are reviewed 65 per cent showed marked improvement in general health

4 There is evidence that removal of both semilunar cartilages in complete synovectomy improves function and gives greater relief from pain

5 Synovectomy is contra indicated in acute gonorrhœal arthritis but is of value in the chronic subacute stage of that condition

H EARLE CONWELL M D

Albee F H Extra Articular Arthrodesis of the Hip for Tuberculosis *Ann Surg* 1928 lxxxix 404

The author emphasizes the value of the extra articular mortised graft operation for arthrodesis of the tuberculous hip joint and reviews thirty one cases in which it gave satisfactory results He has found that intra articular arthrodesis and bracing are unsatisfactory in cases of extensive destruction with caseation

Four variations of technique for the extra articular operation are described each adapted to a different degree of destruction When the damage is moderate the mortising of tibial grafts into the trochanter and the side of the pelvis forms a strong bony bridge between the two and gives an excellent result This is the operation of choice when the pelvis and trochanter are still widely separated When the femoral head is absent as the result of disease or operative removal and the trochanter and pelvis are closely approximated (within ½ in) it is possible to use a sliding graft from the ilium extending down into the trochanter The surgeon should be familiar with more than one operation so that he can choose the appropriate method for each case

Extra articular arthrodesis is indicated in the cases of older children and adults when the abduction deformity constantly recurs after long periods of conservative treatment when it recurs after Gant s osteotomy because of incomplete ankylosis when there is marked destruction of the head or acetabulum or both and when there are symptoms of active tuberculosis In adults it is indicated even when the bone destruction is moderate

For successful results the grafts must be of sufficient strength and length they must fit accurately and they must be carefully mortised at each end Chip grafts unmortised are unsatisfactory The massive mortised grafts tend to immobilize by internal splinting serve as a continuous vascular conducting scaffold for callus formation and bring about closer apposition of the graft tissues to the tissues of the host CHESTER C GUY M D

Wilson P D Posterior Capsuloplasty in Certain Flexion Contractures of the Knee *J Bone & Joint Surg* 1929 xi 40

In certain cases of flexion contracture of the knee manipulative procedures and osteotomy are effective In cases of arthritis extension is prevented by thickening and contracture of the posterior capsule and operation on this structure is indicated

In the operative technique used by the author the biceps tendon is divided the peroneal nerve is located and the structures are then dissected subperiosteally from the posterior surface of the femur through lateral and medial incisions

After the operation a bivalved cast is applied At the end of a week the cast is removed daily for physiotherapy After four weeks a knee caliper brace is used to maintain extension and weight bearing is allowed ELVEN J BERKHEISER M D

MacAusland W R Subastragalar Arthrodesis *Arch Surg* 1929 xviii 624

The author has devised a method of subastragalar arthrodesis which allows displacement of the foot backward to any degree desired The technique is simple and affords good surgical exposure Deformity may be corrected at the time that the arthrodesis is being done by varying the angle at which the section of bone is removed from the lower part of the body of the astragalus

The main indications for the operation are fractures paralysis and joint disease

A curved incision is made from the astragaloscaphoid joint to the Achilles tendon sufficiently below the external malleolus to avoid the astragalofibular ligaments The lower portion of the astragalus and the upper part of the border of the os calcis are removed by sawing so that the two surfaces come directly into contact with each other

The author reports seven cases of various types in which this procedure was used and includes in his article photographs and roentgenograms showing the results ROBERT V FUNSTON M D

FRACTURES AND DISLOCATIONS

Henderson M S Fractures from an Operative Viewpoint *Radiology* 1929 xii 214

Until the new era opened by Lister there was little opportunity for a radical change in the treatment of fractures In 1894 Sir Arbuthnot Lane began urging open operation with internal metal fixation This treatment was advocated by some surgeons and condemned by others Previous to the World War it was probably employed too freely

surgeons not being educated in its proper use The War brought into prominence the conservative treatment of fractures and it is probable that for a time conservative treatment also was applied too frequently

The open method is now being used more and more often but should be employed only by those who are properly qualified and in the proper surroundings The use of the open method as a routine procedure is not advocated Whenever possible the conservative method should be employed In cases of difficult and irreducible fracture the trauma incident to too vigorous manipulations especially if anæsthesia is induced is harmful In such cases immediate operation is preferable The advice that all fractures of the shaft should be subjected to conservative treatment as a routine and that open operation should be done only after conservative efforts have failed is irrational The experienced surgeon will usually be able to determine the fractures that can be reduced conservatively and those that will require open operation With regard to the treatment of old fractures there can be no difference of opinion Old fractures must be either left as they are or treated by open operation

Stewart S F and Warren J W Luxation of Costovertebral Joints *J Am M Ass* 1929 xcii 605

The authors report a case of dislocation of the first rib on the left side with the production of anæsthesia analgesia and paresis of typically ulnar distribution Reduction by open operation resulted in almost complete and instantaneous relief of the nerve symptoms

They give a brief résumé also of the twelve cases of dislocation of ribs which have been reported in the literature These included dislocations of the first fourth sixth seventh eighth ninth tenth eleventh and twelfth ribs The fact that the eleventh and twelfth ribs were dislocated most frequently suggests that their luxation is favored by their lack of anterior cartilaginous attachments

FREDERICK A JOSTES M D

Irwin S T Separation of the Upper Epiphysis of the Femur *Irish J M Sc* 1929 6 s 71

The author reviews the history of traumatic and adolescent disease of the femoral epiphysis The adolescent type was first described by Monks and classified as a double arthritis deformans A most important recent contribution on the condition was an article by Key

In one of the two cases reported by Irwin there was the typical clinical picture of adolescent coxa vara with slipping upward of the diaphysis upon the epiphysis slipping downward of the epiphysis in the acetabulum and outward rotation of the femur upon the epiphysis and trunk As a rule this condition will go on to the development of pain and permanent stiffness of the joint—sometimes even to ankylosis and the early onset of osteo-arthritis

In the very early cases the treatment should consist in manipulation with slight overcorrection The plaster should be removed after three weeks and active massage and rest in bed continued for three months longer

In recent cases with soft but not bony union manipulation fails According to Wilson and Key such cases should be operated upon as soon as possible

Open reduction is advised also for old cases with bony union

In recent years the prognosis has become considerably more favorable In cases without reduction there is undoubtedly some attempt on the part of the body to correct the deformity In the author's opinion subtrochanteric osteotomy does very little to improve function ROBERT V FUNROY M D

Lindsay E A Fracture of the Neck of the Femur in a Girl of Twelve Years *Proc Roy Soc Med* Lond 1929 xxii 546

The patient whose case is reported gave a history of weakness of the right leg and limping of a month's duration The author discovered a definite fracture of the neck of the right femur at its junction with the shaft Treatment consisted in the application of a walking caliper splint Roentgen examination four months later showed good union

The author believes that fractures of the neck of the femur in childhood are more common than is suggested by some textbooks H EARLE CONWELL, M.D

Lugones C Double Fracture of the Anatomical Neck of the Femur (Doble fractura del cuello anatomico del femur) *Rev med Lat Am* 1929 xiv 178

Fractures of the anatomical neck of the femur are frequent in old age particularly in women When the resistance of the bones is decreased by a general or local condition slight trauma or even exertion is sufficient to cause the rarest forms of fracture

The author reports a case of double fracture of the anatomical neck of the femur caused by very slight trauma in a woman sixty years of age who was suffering from a severe psychic disturbance One fracture occurred beneath the femoral head and the other at the base of the neck the anatomical neck of the femur therefore constituting an intermediate fragment The cervical fragment had been forced into the greater trochanter and had broken the latter into a number of fragments The fracture was unusual in its mechanism the number of fragments (six) and the form of the segments

Any pathological condition at any age which brings about fatty degeneration or rarefying osteitis of the bone trabeculæ favors fracture After the age of fifty years the most frequent cause of fracture is senile osteoporosis When fracture is due to a direct cause as a fall on the greater trochanter or flexion its form is determined by the direction in which the trauma acts and the trabecular architecture of the bone AUDREY G MORGAN M D

Milch H Astragaloscaphoid Dislocation *Ann Surg* 1929 lxxxix 427

Graham W T and Faulkner D M Astragalectomy for Fractures of the Astragalus *Ann Surg* 1929 lxxxix 435

Conwell H E Acute Fracture Dislocations About the Ankle Joint *Ann Surg* 1929 lxxxix 439

MILCH reports a case of true astragaloscaphoid dislocation the thirteenth to be recorded and discusses at some length the mechanism by which such an injury is produced The displacement which was revealed by palpation caused shortening of the distance from the internal malleolus to the tip of the great toe For the differential diagnosis between talonavicular and mediotarsal dislocations roentgen ray examination is necessary In early cases it will be found reduction can be accomplished with ease but in neglected cases open operation may be necessary

GRAHAM and FAULKNER report the results in ten cases of fracture of the astragalus in which astragalectomy was done They conclude that this operation is always followed by disability of at least 25 per cent and therefore urge the more frequent practice of open reduction in order that the number of astragalectomies necessitated by malunion may be reduced Early astragalectomy is indicated if reduction by open operation cannot be maintained or if the comminution and crushing of the bone is very severe In late cases of non union or malunion it is the treatment of choice

CONWELL reports five cases of fracture dislocations about the ankle joint and urges conservative treatment of all such injuries before amputation is attempted Early reduction and thorough mechanical cleansing of the wounds are of great importance Satisfactory immobilization can be obtained only by the application of a circular cast from the toes to the middle of the thigh with the knee in about 20 degrees of flexion Weight bearing should be forbidden for two months CHESTER C GUY M D

Lemarchal and Mauclaire Fractures of the Calcaneus (A propos des fractures du calcanéum) *Bull et mém Soc nat de chir* 1928 lv 10

The authors describe a curious fracture of the calcaneus caused by a sudden lateral compressive force Physical and roentgen examination revealed an osseous prominence the size of a cherry under the skin of the heel and two small spicules on the lateral surface As the height of the calcaneus was not diminished there was no vertical fall The fragments were removed by operation One of them was covered by articular cartilage

It appeared that the lateral compression had forced the fragments from the center of the bone in the same way as the seed can be forced from a cherry

SAMUEL L ROBBINS M D

Leriche R Surgical Treatment of Fractures of the Calcaneus (Traitement chirurgical des fractures du calcaneum) *Bull et mem Soc nat de chir* 1928 lv 8

Operative reduction of fractures of the calcaneus was first reported by Leriche in 1913 He regards surgical reduction as the procedure of choice as the results of conservative treatment are usually exceedingly unfavorable The disability is almost always due to maladjustment of the articular surfaces which leads to traumatic arthritis The logical treatment therefore must aim at re establishment and maintenance of alignment of the joint surfaces If this cannot be done fixation of the astragocalcaneal joint is obligatory

The author reports six cases which were under observation for many years The anatomical and functional results are excellent

SAMUEL L ROBBINS M D

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

De Takáts G Varicose Veins and Their Sequelæ *J Am M Ass* 1929 xcii 775

The author reviews the Trendelenburg test for patency of the deep veins of the leg and gives his classification of varicose veins and ulcers In tests of various sclerosing solutions in the injection treatment of varicose veins he found that a 50 per cent solution of dextrose was the most satisfactory and least irritating

Functional changes such as pressure disturbances and an increase in the carbon dioxide content precede the morphological changes in varicose veins

One hundred and sixty cases of varicose veins and their sequelæ were studied with regard to the age and sex incidence of the lesions and more than 1 000 injections of 50 per cent dextrose were made An individualizing management of supportive injection and surgical treatment or their combination was adopted

The histological reaction of the vein following injection was studied and the immediate results of the various forms of treatment are tabulated In injection treatment and surgical treatment the possibility of pulmonary embolism must be considered The end results of surgical and injection treatment can be estimated only after five years Recurrences have been known to develop after radical excisions and may occur also following treatment by injection

JOHN J MALONEY M D

BLOOD TRANSFUSION

Emile Weil P Severe Complications of Hæmophilia—Retrobulbar Hæmatoma and Hæmatoma of the Floor of the Mouth—Arrested by the Transfusion of Blood (Accidents hémophiliques graves—hématome rétro-orbitaire hématome du plancher buccal—arrêtés par la transfusion du sang) *Bull et mém Soc méd d hôp de Par* 1929 xlv 158

The patient whose case is reported was a boy nineteen years of age who was suffering from hæmophilia which was not familial Following an attack of grippe a large hæmatoma developed back of the orbit and another appeared in the floor of the mouth The eyes were very prominent and the patient was scarcely able to perceive light The hæmorrhages were stopped and loss of vision was prevented by an intravenous infusion of 225 c cm of blood

This is the only case known to the author in which a retrobulbar hæmatoma was cured without loss of vision Both retrobulbar hæmatomata and hæmatomata of the floor of the mouth are rare complications of hæmophilia

AUDREY G MORGAN M D

Cole W C C and Montgomery J C Intraperitoneal Blood Transfusion Report of 237 Transfusions on 117 Patients in Private Practice *Am J Dis Child* 1929 xxxvii 497

The authors 237 intraperitoneal blood transfusions were done on infants and young children Reactions were conspicuous by their absence although cross agglutination was not done Donors of the same group or Group 4 were used

The blood was collected from the donor in a large syringe containing freshly made citrate solution The needle was then detached and a long rubber tube applied to which the peritoneal needle was fixed The blood was run into the peritoneal cavity by gravity The needle was inserted in the midline below the umbilicus and above the bladder Unless the bowel or bladder was greatly distended there was very little chance of injury resulting A short beveled large bore needle was used for the peritoneum

This method is of great value in cases of secondary anæmia associated with infection It is not advocated for the rapid replacement of blood volume in shock or hæmorrhage The hæmostatic effect of the transfusion is probably delayed The contraindications are the same as those for other transfusions except that this method should not be used in the presence of intra abdominal disease

GEORGE I COLLETT M D

Kuehl G The Fate and Effect of Transfused Blood (Schicksal und Wirkung transfundierten Blutes) *Ergebn d inn Med* 1928 xxxiv 501

In this article the following questions are answered in detail

1 What displacements in the peripheral blood circulation are possible under certain conditions without the introduction of new blood into the organism? On the basis of the author's investigations the answer is that the normal organism can take care of a very considerable displaceable reserve of red blood cells The mobilization of these reserves by any intervention (anæsthesia expression of the spleen etc) may produce variations in the red cells of the peripheral blood up to three millions per cubic millimeter

2 Can the organism remove a large number of introduced red blood cells from the circulation and if so in what length of time? The author's studies show that the normal organism is able to remove from the circulating blood excessive red cells introduced by transfusion within eight hours

3 Can the eventual elimination of the excessive red cells be delayed? Elimination from the circulation is brought about at least partly by the spleen By exclusion of the spleen it is delayed up to

seventy two hours In addition the entire reticulo endothelial system seems to play a part in the proc ess

4 Can the organism take up a very large number of transfused red blood cells in its circulation and retain them there for some time? The author s experiments indicate that the organism apparently even under favorable conditions is not able to take up permanently in a viable state introduced alien red blood cells The red blood cells are highly differen tiated cells which without nuclei have scarcely any metabolism of their own and are therefore most un suitable for transplantation

The course of blood transfusion is explained by the author as follows

As a result of the reception of alien blood the en tire hæmolytic system is transiently saturated and the destruction of the body s own red blood cells ceases during the time of the elimination of the alien material By the necessary catabolism of the transfused blood the activity of the bone marrow is accelerated hence the decomposition products of the red blood cells exert a stimulating effect upon the bone marrow The accelerated activity of the bone marrow results in a second increase of the red blood cells during the days following the transfusion which, according to the state of function of the bone marrow and the catabolic organs either ceases after a short time or continues The immediate effect of a transfusion is therefore the correction of the dis parity between the new formation and the cata bolism of red cells which is present in every form of anæmia by a transitory blocking of the hæmolytic system by the transfused blood with preservation of the body s own red blood cell Of chief impor tance is the inhibition of hæmolysis of the body s own red blood cells by the transient blocking of the hæmolytic system by the transfundate that is to be destroyed

In the stimulation of the hæmatopoietic system which occurs secondarily the supply of building material from the destroyed transfused red blood cells may play a part STEGEMANN (Z)

LYMPH GLANDS AND LYMPHATIC VESSELS

Coyon A and Brun C Experimental Reproduc tion of the Lesions of Hodgkin s Disease (Re production expérimental des lesions de la maladie de Hodgkin) *Bull et mém Soc méd d hôp de Par* 1929 xlv 82

The authors report the case of a woman twenty nine years of age who presented enlargement of the cervical and subclavicular glands which had been developing for six months A diagnosis of Hodgkin s disease was made and confirmed by biopsy which showed sclerosis and marked polymorphism of the cells—polynuclear neutrophils eosinophils lympho cytes plasmocytes and Sternberg cells The glands continued to increase in size in spite of roentgen treatment and the patient died in profound cachexia

Autopsy revealed bilateral serofibrinous pleurisy and marked generalized adenopathy On histo logical examination the gland masses were found to be granulomatous They contained no tubercle bacilli or other bacteria but tuberculous lesions with giant cells and Koch bacilli were discovered in the spleen and liver and small caseous foci containing Koch bacilli were found in the left lung a mesenteric gland and the right ovary

Eight guinea pigs were inoculated with material from the glands Six of them showed no pathological changes In two of them—one inoculated directly with material from the clinical case and the other with blood from the heart of the first guinea pig—gland lesions developed which showed the histo logical characteristics of human lymphogranulo matosis In the authors opinion this is evidence if not proof that Hodgkin s disease is caused by virus which is transmitted through the blood

In the discussion of the report TIXIER said that he did not consider the authors case conclusive He has never had positive results from inoculations In the case reported by Coyon and Brun the ana tomical lesions were not pure lymphogranulomatosis but were complicated by tuberculosis He therefore urged that further experiments be made with cases free from tuberculosis AUDREY G MORGAN M D

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Evans W H Patey D H Bonney V Lockhart Mummery J P and Others Discussion on Postoperative Thrombosis *Proc Roy Soc Med* Lond 1929 xxii 729

Evans calls attention to the similarities between thromboses following operation parturition fractures and acute fevers All of them follow tissue injury with subsequent absorption of breakdown products and are preceded by a period of immobility of the patient The sites of the original thrombosis are remarkably constant being usually the great veins of the lower extremities and the pelvis Occasionally they are in the lungs or the auricles In all of the cases changes in the blood can be demonstrated A constant feature is an increase in the blood platelets In some cases there is evidence also of an increase of fibrinogen in the blood

Tissue juices fibrinogen and blood platelets are important factors in coagulation The blood platelets arise in the marrow and are destroyed in the reticulo endothelial system While their rôle in clotting has been disputed it is generally agreed that their disintegration provides material which is intimately associated with the formation of thrombin and the coagulation of fibrinogen Evans made a study of the platelet counts in a series of fifty cases following operation The majority were clean cases In most of them the platelet count showed an increase from four to six days after the operation reached its maximum on about the tenth day and then declined to normal during the subsequent ten days The increase showed no relationship to the patient s age or to massage movement or breathing exercises Similar findings were made in twenty eight cases of parturition and in cases of fracture of the lower limbs The increase in the platelets seems to be independent of mere loss of blood confinement to bed anæsthesia and sepsis

That such an increase in the platelets and fibrinogen *is not essential for the occurrence of thrombosis* is shown by the occurrence of embolism in some instances within a few hours after an operation In such cases the decisive factor is probably the direct action of tissue juices combined with other factors such as the extent and shock of the operation the previous disease trauma to vessels and possibly personal idiosyncrasy

Patey describes four forms of thrombi as follows

1 The thrombus which remains at its site of formation and gives rise to clinical signs by distending and obstructing the vein

2 The thrombus which migrates *en masse* to occlude the main pulmonary artery or one of its branches

3 The thrombus *from which small fragments only* are shed into the circulation and cause minor pulmonary embolism or pulmonary infarction

4 The thrombus which remains latent unless the accident of death leads to its discovery at post mortem examination

Of these four types massive pulmonary embolism and *obstructive thrombosis lend themselves best to* study because of the definiteness of their symptoms and the comparative ease of their diagnosis

Patey is of the opinion that at the present time the gap between the facts demonstrated by experimental tissue extract in animals and the conditions of thrombosis and embolism in man is so wide that any theories based on the former are of very doubtful value He believes it doubtful also whether postoperative flexion of the thigh causes kinking or partial obstruction of the femoral vein He states that to prove the existence of a relationship between the numerical platelet increase and liability to postoperative thrombosis it is necessary to prove that the operation of splenectomy is more liable to be complicated by thrombosis and embolism than other operations

The only important factor that we are at present able to control to any degree is postoperative venous stasis Inhibition of the function of the diaphragm after operation not only diminishes the aspiratory action of the thorax on the veins but also interferes with the abdominal respiratory pump mechanism

Bonney states that a bacterial origin of thrombosis is indicated by the fact that thrombosis is always preceded by fever and local pain A toxic or hæmic origin seems improbable It is conceivable that as postoperative thrombosis usually occurs between the tenth and fourteenth day after the operation it may be due to anaerobic infection from the intestines.

Lockhart Mummery states that in his opinion sepsis is not necessarily an important factor in thrombosis Neither is stasis alone responsible In an experiment performed by Hunter in which the jugular vein of a normal horse was tied off at two *points* intravascular clotting did not occur even after the lapse of two weeks In Lockhart Mummery s opinion intravascular clotting is dependent upon the liberation of thrombokinase in association with stasis

McCann called attention to the fact that any condition causing pain has an extraordinary influence *on diaphragmatic contractions* He recommended careful suturing of the abdominal wall and general body movement from the first day after operation.

Rowntree stated that when a patient develops an obvious femoral thrombosis he feels assured that pulmonary embolism will not occur since in his experience the latter always develops entirely unexpectedly

John H Garlock, M.D

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Hektoen L and Irons E E Vaccine Therapy Result of a Questionnaire to American Physicians *J Am M Ass* 1929 xcii 864

Of 1 261 physicians answering a questionnaire regarding the value of vaccine therapy only 17 stated that they consider vaccine therapy to be a generally useful and superior method of treating infectious diseases Four hundred and thirty do not use or have never used autogenous vaccines and 172 have abandoned their use Five hundred and seventy seven do not use or have never used stock polyvalent vaccines and 198 have abandoned their use One or more reported that they use or have used vaccines in 63 different conditions but stated that the results are negative or inconclusive in most cases One hundred and forty had noted harmful effects from the use of stock polyvalent vaccines Seventeen cases of asthma following courses of vaccine therapy were reported

The replies to a questionnaire sent to tuberculosis specialists are also reviewed

J Frank Doughty M D

Fairley N H The Present Position of Snake Bite and the Snake Bitten in Australia *Med J Australia* 1929 i 296

The mode of action and the clinical and pathological effects produced by different Australian colubride venoms in sheep are briefly recorded

Immediate ligature combined with incision and the application of potassium permanganate solution failed to save life in sheep naturally bitten by Notechis scutatus

In sheep excision of the bitten area proved an effective therapeutic procedure only when a ligature was applied immediately after the bite that is within one minute

The necessity for the establishment of antivenin treatment in the case of tiger snake and death adder bites in Australia is emphasized At present no satisfactory treatment is available and once a lethal dose of venom is absorbed death is inevitable

Certain prophylactic measures are discussed These include the use of leggings and putties in snake countries and legislation directed to prevent the sale of patent antidotes and the handling of venomous snakes in side shows John H Carlock M D

McClintic C F The Treatment of Trophic Ulcers by Alcoholic Injection of the Blood Vessels *J I M Ass* 1929 xcii 95

The author reports the successful treatment of trophic ulcers of the lower extremity by alcoholic injection of the blood vessels The technique is quite simple The femoral artery is exposed in the lower two thirds of Scarpa's triangle and from 1 to 2 c cm of 95 per cent alcohol is injected into the nerve bearing tissue of the artery until the vessel is completely encircled by an alcoholized ring or collar The effect is immediate It is not preceded by a period of vasoconstriction as is the case in periarteriorrhaphy There is an immediate change in the pulse volume below the site of the injection and the extremity becomes flushed and warm The effects are more permanent than those of periarterial sympathectomy the risk of injuring a blood vessel is practically nil and the time necessary for the operation is only a few minutes

The author has used the alcoholic injections in the treatment of generalized arteriosclerosis varicose ulcers chronic indolent ulcers of unknown etiology endarteritis obliterans and Raynaud's disease He believes that the procedure is indicated also in chronic arthritis deformans and painful acroparæsthesia in cases in which amputation of an extremity is to be done for gangrene (it permits the amputation to be performed more safely at a lower level) and in roentgen burns, gangrene from frost bite and certain types of hypertension

Jacob M Mora M D

ANÆSTHESIA

Blomfield J and Shipway F E The Use of Avertin for Anæsthesia *Lancet* 1929 ccxvi 546

The authors report on 198 cases in which anæsthesia was induced with avertin This drug tribromethyl alcohol was introduced in 1926 and is now being rather widely used particularly in Germany In the cases reviewed by the authors there was 1 fatality in which it was believed that the avertin might have been a factor

The drug is given in a 3 per cent solution by rectum The dose is from 0 09 to 0 15 gm per kilogram body weight The authors state that avertin produces unconsciousness more quickly and quietly than any similar drug with which they have had experience No untoward effects on the respiration or circulation have been observed There is a slight fall in the blood pressure usually about 10 mm Hg The analgesia and amnesia persist for about three hours after the operation No unfavorable after effects have been noted

There appears to be no contra indication to the use of avertin on the score of age Hughes speaks enthusiastically of its use for children Nor does any state of bodily health except rectal disease forbid its use Nevertheless the authors believe that it should not be employed when there is serious damage of the liver or kidneys as the drug is excreted by these organs

They have found avertin of especial value for patients who dread a general anæsthetic or have suffered after former anæsthesias for persons with exophthalmic goiter and those in whom the psychic aspect of the matter is of importance for patients who have to undergo long operations not requiring very deep anæsthesia for injections for trigeminal neuralgia for patients with pulmonary disease and for prolonged operations about the head and neck

Jacob M Mora M D

Cau s C J Pernocton Scopolamin Twilight Sleep (Pernocton Scopolamin Daemmer chlaf) *Schmer* 1928 11 130

Gauss has worked out the following technique for the induction of pernocton scopolamin twilight sleep

When the pains are recurring regularly every three to five minutes and last about twenty seconds from 4 to 6 c cm of pernocton are injected intravenously at a rate not exceeding ¼ c cm per fifteen seconds until the patient s counting from 100 backward be gins to show incoördination The first injection of scopolamin (from 0 000 15 to 0 000 21 gm) is given after from five to ten minutes in order that its full effect will have begun when that of the pernocton has begun to diminish Thereafter at more or less regular intervals ranging from three quarters of an hour to an hour and a quarter according to the patient s re action further injections of scopolamin in doses of 0 000 15 0 000 21 or 0 000 3 gm are given ac cording to the requirements of the particular case Delivery of the head over the perineum requires in addition a shallow narcosis induced with ethyl chlo ride nitrous oxide or narcylen

With this technique the author has had entirely satisfactory results as regards both the mother and the child in 115 cases He prefers pernocton scopo lamin twilight sleep to all other methods for the relief of the pains of childbirth It is not suited of course to every patient In cases of weak labor pains nar row pelvis anæmia fever or danger to the mother or the child it should not be considered Since continu ous observation of the patient experience and good technique are essential the method should be used only in obstetrical hospitals COLMERS (Z)

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Chamberlain W E Radiology as a Medical Specialty Its Development with Especial Reference to the Relations Between Hospitals and Radiologists *J Am M Ass* 1929 xcii 1033

Martin C L The Radiologic Department in the Hospital *J Am M A s* 1929 xcii 1039

CHAMBERLAIN states that as radiology is a branch of medical practice the radiological department of a hospital should be in charge of a properly qualified medical specialist and the services of this specialist should be considered as consultations Such recognition of the specialty by the medical profession would tend to eliminate roentgen laboratories conducted by laymen and serve to attract competent physicians to radiology At present there is a tendency on the part of many hospitals to exploit the services of radiologists for their own financial gain As a result good radiologists hesitate to associate themselves with institutions To remedy this condition and best serve the interests of the patient and the referring doctor the hospital radiologist must be offered an opportunity for self development comparable with that of his brothers in medicine and surgery His services should be paid for on the basis of a consultation and the hospital income should be limited to a fair return on the investment in space and equipment with a liberal allowance for obsolescence

MARTIN discusses the factors that are necessary for the maintenance of an ideal radiological service in a hospital Proper equipment and housing a knowledge of correct technical procedures on the part of the personnel of the department and an adequate record and filing system are fundamental essentials but of chief importance is a properly trained radiologist in charge The radiologist should have not only a thorough knowledge of his specialty but also a knowledge of modern medicine sufficiently broad to make him a true consultant He should have the ability and willingness to teach and some familiarity with research problems He should be assured of a position of dignity and an income comparable to that expected in other specialties requiring a similar amount of training Encouragement to build up a private practice in the hospital would probably be a further incentive to the best endeavor

ADOLPH HARTUNG M D

Pfahler G E Radiation Therapy in Malignant Disease with Special Reference to the Saturation Method *Illinois M J* 1929 lv 177

When there is sufficient skill and equipment available radiation is the method of choice in the treatment of malignant disease of the skin the mouth and the cervix uteri In diseases of the skin a combination of radiation and electrocoagulation is frequently advantageous

The saturation method of irradiation developed by the author gives the best results in skin cancer when the lesion is large and the surrounding tissues must be conserved but is especially valuable in deep cancer In principle it consists of the delivery into the diseased area of the maximum amount of radiation that can be tolerated by the normal surrounding tissue and maintenance of this effect by additional smaller doses for a period of time sufficiently long to destroy the disease but not to cause permanent damage of the surrounding healthy tissues The period necessary for this effect is not known exactly but is approximately from one to three weeks

Successful practical application of the method demands an accurate diagnosis careful measuring of the radiation applied a correct technique in making the application and proper care to keep the patient s general health in good condition The saturation curves are based primarily upon clinical observation The author s methods for obtaining them are described In the practical application of the curves special consideration must be given to accurate distribution of the rays and maintenance of the saturation value in the lesion with conservation of the surrounding tissues and organs The technique is described in detail

Special consideration is given to carcinoma of the breast uterus and mouth In carcinoma of the breast radiation treatment must be considered in relation to surgery In some cases postoperative roentgen therapy is necessary in others pre operative radiation is preferable The author reviews statistical studies of radiation therapy and compares the results obtained with this treatment and other methods in various clinics

With regard to carcinoma of the cervix uteri five year results from radiation treatment in operable and borderline cases as tabulated by Heyman are given

In cancer of the mouth the saturation method has yielded results far superior to those obtained by the older methods

In conclusion the author states that in his opinion the saturation method is the best method of radiation therapy If all the knowledge that is now available is utilized a cure should be obtained in practically all cancers of the skin (if treated while they are confined to the skin) in from 70 to 100 per cent of cancers of the breast operated upon while they are still confined to the breast) and 46 per cent of those with involvement of the axillary lymph nodes if operation is combined with radiation in from 50 to 75 per cent of cancers of the mouth treated early and

thoroughly by gamma radiation and in from 48 to 80 per cent of cancers of the uterus treated thoroughly and skillfully by *radiation in the earliest* stages ADOLPH HARTUNG M D

RADIUM

Souttar H S Radium and Its Surgical Applications *Brit M J* 1929 i 538

Referring to radium Souttar states that for the first time in history medical science has in its possession an agent which can cure cancer beyond any doubt Radium can destroy malignancy without surgical removal of the lesion Every surgeon should *therefore know what can be done with radium therapy* should understand the methods by which it is applied and should explore its possibilities to their utmost limits

Radium decays one half in 1 750 years Radium A decays one half in three minutes It is to the rapid de*cay of radon and the other elements in the center of* the radium group that the surgical possibilities of radium are due

The author cites Rutherford s description of the atom as a minute solar system He describes the hydrogen atom as a type and discusses electrons and *the structure of an alpha particle as the nucleus of a* hydrogen atom The electron set free to fly through space is a beta particle The radium atom is of enormous complexity with a cluster of 226 protons and 138 electrons grouped together to form a nucleus and more than 88 electrons whirling about the nucleus. *As various alpha particles are discharged from this* solar system and electrons are projected into space the atom changes to another form This process is interpreted as decay The alpha particle which carries a positive electrical charge proceeds at a velocity of 10 000 miles a second but will not penetrate a *thin sheet of paper It has no value in surgery* Beta rays which are negatively charged electrons traveling at the rate of 180 000 miles per second are entirely stopped by 0 3 mm of platinum or 1 cm of body tissue Their surgical action is very local They are often screened out altogether The gamma rays are ether waves of a wave length less than one five thousandth that of light They have the velocity of light and can penetrate several inches of lead In passing through 4 in of body tissue they are reduced 50 per cent The beta rays are used chiefly to destroy superficial lesions The gamma rays cause the disappearance of a malignant tumor and its replacement by a scar of a much milder character than the beta ray scar Radon the emanation of radium decays one half in four days It can be separated from radium and packed in convenient containers having all the powers of radium Its value must be determined by reckoning its gradual decay A useful rule is that the total radiation of 1 5 mc of radon is physically equal to that of 1 mgm of radium in a period of eight days

A common apparatus for the application of radium consists of needles containing radium elements or radon gas The needle commonly employed at the London Hospital is made of platinum with a thickness of 0 5 mm which cuts off the beta rays It is packed with radium sulphate in the strength of 1 mgm per linear centimeter These needles are inserted into the tissues and homogeneously distributed chiefly in the growing edge of the tumor It has been observed that in a five day exposure 1 mgm of radium can destroy the cancer cells in a cubic centimeter of tissue The treatment of a case of carcinoma of the breast is described as an example of the introduction of radium needles Two groups of needles are inserted into and beneath the tumor itself on different planes the two rows following the lymphatics *along the borders of the two pectoral muscles A* third group is placed in the axilla and a fourth group beneath the clavicle in the region of the costocoracoid membrane A fifth group is placed above the clavicle and a sixth group in the upper five intercostal spaces and the rectus sheath Between *forty and fifty needles containing from 75 to 100* mgm are left in place for from seven to nine days.

The tongue is an ideal site for the use of seeds. From eight to twelve seeds containing from 1 to 2 mc. of radon are commonly inserted into the base of the growth usually through the tongue itself As a *rule the tumor disappears in about three weeks leav*ing a contracting scar The glands of the neck are then dissected out and the treatment is completed by the external application of radium mounted on a wax collar made of Columbia paste The treatment of a tumor by external application is conveniently accom*plished with the aid of a sheet of* Columbia paste (beeswax 100 paraffin 100 pine sawdust 200) 1 5 cm thick Radium screened with platinum (needles containing from 0 5 to 1 5 mgm of radium 1 cm apart) is planted on the outer surface of the collar The duration of the application varies from a few *hours to a month* according to the strength of the needles and the requirements of the case Cheval of Brussels applies 4 gm of radium at a distance of 1 ft or more employing the gamma ray in a manner similar to the administration of roentgen rays The results are said to be extremely good but the method is costly

Brilliant results have been obtained from radium irradiation in rodent ulcer cancer of the cervix cancer of the tongue and buccal cavity and cancer of the breast Radium is now being applied in almost every region where cancer develops The author believes that complete success is only a matter of time He cites a few of his own cases to show the results that may be expected

In one of the cases cited a carcinoma of the palate recurring after operation was treated by the insertion of six radon seeds each containing 1 5 mc The tumor disappeared in fourteen days Six weeks later there was no trace of a scar The patient remains *in per*fect health

A huge epithelioma of the lip was treated with six needles each 2 cm long and containing 2 mgm of radium which were left in place for one week Two

weeks later the glands of the neck were removed No visible carcinoma remained If recurrence should develop it can probably be dealt with in a similar manner

An extensive carcinoma of the thyroid involving both lobes pressing upon and adherent to the trachea and with several nodular glands adjacent to it was treated with twenty radon seeds each containing 1 5 mc of radon Ten days later the tumor had completely vanished and since then the patient has been in perfect health

A carcinoma of the œsophagus located 10 in from the teeth exhibiting an ulcerated mass of growth and encircling the œsophagus was treated by the insertion of eight radon seeds containing 1 5 mc each At the end of six weeks the patient had gained in weight and appeared to be in perfect health

A large carcinoma involving the lesser curvature of the stomach and regarded as inoperable was treated by the insertion of six platinum needles each 4 cm long and containing 4 mgm of radium element After five days the needles were withdrawn without difficulty and in three months the patient had regained his normal weight and was in excellent health

A mass of huge interlacing veins occupying the whole upper right Rolandic area of the meninges about 3 in in diameter and diagnosed as an angioma was treated with six radium needles each 2 cm long and containing 2 mgm of radium The needles were left in place for four days and withdrawn without difficulty There has been no recurrence of symptoms and the patient appears to be in perfect health

The author concludes his article by saying I am convinced that we are only on the threshold of a great adventure I feel that a new world of surgical technique is opening before us I am beginning to believe that at last we hold in our hands the key to the cure of cancer A JAMES LARKIN M D

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Lehman E P and McNattin R F Fat Embolism III The Pathology of the Lungs in Experimental Fat Embolism *South M J* 1929 xxi 201

In experiments on dogs the authors undertook a study of fat embolism with special reference to the changes that occurred in the lungs of the animals surviving from or succumbing to the intravenous injection of cottonseed oil They found that following the primary effects of sudden extensive mechanical blocking of the lung capillaries the most striking reaction of the lung was proliferation of endothelial cells In the late stages there was marked scarring in the lung In lungs in which acute inflammation was superimposed the ordinary picture of broncho pneumonia and bronchitis was present as well Miliary collections of polymorphonuclear leucocytes in these cases were frequently present Dogs were able to survive the intravenous injection of from 1 to 1 5 c cm of cottonseed oil per kilogram of body weight Almost all of the oil had disappeared from the lung at the end of the third week

As previous studies had shown that fat embolism may occur without trauma in other conditions especially during ether anæsthesia in the lipæmic phase of digestion the authors conclude that so called ether pneumonia and postoperative lung abscess may be initiated by disturbances in the circulation of the lung caused by fat embolism

MANUEL F LICHTENSTEIN M D

Mueller H A Single Explanation of New Tissue Formation in Man (Eine einheitliche Erklaerung fuer die im menschlichen Koerper vorkommenden geweblichen Neubildungen) *Arch f path Anat* 1928 ccxlv 105

The author discusses first the processes of regeneration of the epithelium of the skin and mucous membranes He states that we have as yet no definite knowledge as to the replacement processes in the epidermis and that the germinal layer theory can no longer be regarded as satisfactory In his opinion Waldeyer's theory of the epithelial origin of carcinoma has never been entirely convincing and its anatomical and theoretical bases can no longer be accepted He has come to the conclusion that epithelial tissues are replaced under physiological as well as pathological conditions the latter even including the growth of cancer from the germinal tissues of the vessel walls He believes that metastases result not from the division of carcinoma cells transported by the blood and lymph streams but from germinal tissues at the sites of the metastases similar to those from which new epithelial tissue is formed and the original tumor had its origin This germinal tissue supplies the lymph glands with reticulo-endothelial tissue and is present in all organs Hormones are specific growth substances In regeneration the destroyed tissue acts as a growth hormone

Mueller considers the relationship of regeneration and carcinoma formation to be as follows

Tissue formation results from the mesenchymal germinal tissue which is present throughout the body some of which is very closely connected with the vascular system The stimulation produced by destroyed tissue results in excess tissue replacement. The new formation in the mesenchyma extends more or less beyond the narrowest zone of regeneration and gradually regresses when the stimulus to regeneration ceases When there is a continuous destruction of tissue or destruction results suddenly as after trauma or irradiation the increased regeneration may lead to cancer formation which represents a self sustaining regenerative process This continuous effect is dependent upon a continuous destruction of tissue and the latter is apparently due to a deficiency in the blood supply

Histological examination of the area of cancer formation shows first a gradual enlargement of the capillaries and then an epithelial transformation of the endothelial cells by which th capillaries are gradually choked off and ultimately destroyed The resulting cell injuries lead by hormonal stimulation to similar new tissue formation in the contiguous germinal tissue a process which is constantly repeated

MEYER (Z)

Elenevskij K and Melnikov A Chordoma (Ueber Chordome) *Ortoped ja i travmatologija* 1928 i 32

To the sixty eight cases of chordoma reviewed by Coenen Melnikov adds fifteen more which he has collected from the literature The localization of the tumor is usually cranial but in forty five cases Korickij found involvement of the jaws The spine itself was the site of the tumor in only two cases In the sacrococcygeal segment chordomata were found thirty six times The authors report the clinical course and histological picture in another case The patient was operated upon five times and in the course of twenty two years the condition caused no loss of strength and formed no metastases

The roentgen picture showed a characteristic honeycomb like rarefaction of the sacrum The diagnosis was not made until the fourth operation which was performed by Melnikov Not only the bones but also the pelvic connective tissue was so infiltrated by the grayish yellow mucilaginous masses and sago like growths that radical removal could not be con

sidered However as before and later a palliative operation was sufficient to relieve the severe pain and the urinary disturbances The patient died from an attack of angina pectoris The specimen removed at autopsy is described in detail Roentgen therapy caused only circulatory and nutritional disturbances and had no curative effect OSTEN SACKEN (Z)

Carnett J B Malignant Metastases Other Than to the Regional Lymph Nodes *Arch Surg* 1929 xviii 811

In late cases of malignancy the primary lesion is usually obvious The main problem that confronts the surgeon is the detection of the early distant metastases which contra indicate operation

Cancer of the breast may metastasize in many directions but usually the metastases occur within certain well marked limits While the dominant process in the spread of the condition is lymphatic permeation it is impossible to predict in a given case the direction in which the permeation will be manifested first Osseous and intrathoracic metastases are often present but unsuspected at the time patients with cancer of the breast are subjected to radical operation Routine pre-operative roentgenograms of the lungs and bones will often prevent a futile operation Complaints of rheumatic neuralgia or other obscure pains call for roentgenograms to exclude involvement of the bones

The author discusses also metastases of cancer of the skin ear lip tongue maxillary antrum larynx œsophagus stomach intestines kidney prostate testis and female sex organs

Sarcomata metastasize mainly by means of tumor cell emboli which enter the venous system in the primary lesion and are carried through the right side of the heart to lodge in the capillaries or smaller arteries of the lungs No one can predict where these secondary emboli will lodge and produce tumors As a rule a haphazard distribution of metastases indicates sarcoma rather than carcinoma

The lesions cited constitute the vast majority of malignant lesions encountered in practice Very frequently metastases which prohibit operation have developed by the time the patient applies for treatment CARL R STEINKE M D

Bell W B The Present Position of Lead Therapy in Malignant Disease *Brit M J* 1929 i 431

Bell believes that the saving of more lives in cases of cancer will ultimately come through biochemotherapeutic procedures For the past twenty years he has been developing the use of lead as a chemotherapeutic agent He states that he is encouraged by the fact that favorable results have been obtained with the crude products alone He hopes that with the development of organic complexes containing lead greater success will be possible When other agents have been employed to destroy the cancerous tissue the additional use of lead has prolonged life or increased the value of the other treatment Lead treatment combined with X ray or radium irradiation has been more effective than either X ray or radium therapy alone In some cases the use of lead alone has been followed by recovery

Among the contra indications to lead therapy are kidney and liver diseases In anæmia the blood count must be improved before lead may be administered and in myocardial disease the use of lead requires the utmost caution When the patient is already cachectic any form of treatment is valueless

A suspension of metallic lead or colloidal lead phosphate has been employed a dosage of from 0 5 to 1 0 gm being injected through a vein In some cases X ray or radium therapy has been given four days after the injection whereas in others the lead therapy has been given after surgical removal of the major portion of the growth

The author briefly reports cases showing the efficacy of lead therapy alone and lead therapy combined with X ray or radium irradiation and surgery MANUEL F LICHTENSTEIN M D

Camurati M Successive Neoplasms The Non Contemporary Existence of a Myeloplaxic Tumor and a Polymorphous Sarcoma (Successione neoplastica esistenza non contemporanea di un tumore a mieloplassi e di un sarcoma polimorfo) *Chir d organi di movimento* 1928 xiii 213

The author reports in detail a case of bone tumor in the proximal end of the humerus of a thirteen year old boy A diagnosis of myeloplaxic tumor was made on the basis of the clinical roentgenological gross and microscopic examinations Six years later the patient returned with a painful swelling of the radius X ray examination of the shoulder showed the contours of the humerus to be normal in spite of a fracture through the neck and an incomplete curettement performed when the patient was in the hospital previously The clinical and X ray diagnoses were again myeloplaxic tumor but a microscopic study of different parts of the neoplasm demonstrated a polymorphous stroma very rich in cellular elements blood vessels and lacunæ areas of lymphoid and young connective tissue and atypical and giant cells The histological diagnosis was polymorphous sarcoma Nine months after intervention the tumor was still growing but there were no metastases elsewhere

The author is unable to correlate the benign tumor of the humerus which healed completely with the occurrence of the malignant tumor of the radius Tumors are known to metastasize years after their complete excision but the metastatic nodule is always made up of a recognizable fundamental cell even though there may be anaplastic changes in the cells SAMUEL L ROBBINS M D

DUCTLESS GLANDS

Garland J Some Sidelights on the Thymus Vogue *New England J Med* 1928 cc 59

Garland calls attention to the confusion that exists regarding the difference between simple hyper

MISCELLANEOUS

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MEYER (Z)

Elenevskij K and Melnikov A Chordoma (Ueber Chordome) *Ortopedija i Ira matologija 1928 i 3*

To the sixty eight cases of chordoma reviewed by Coenen Melnikov adds fifteen more which he has collected from the literature The localization of the tumor is usually cranial but in forty five cases Korickij found involvement of the jaws The spine itself was the site of the tumor in only two cases In the sacrococcygeal segment chordomata were found thirty six times The authors report the clinical course and histological picture in another case The patient was operated upon five times and in the course of twenty two years the condition caused no loss of strength and formed no metastases

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Thymic and splenic tumors may be accompanied by endocrine disturbances but the function of these structures is too little known to permit definite conclusions

Since affections of one endocrine gland almost necessarily cause disturbances in the others it is to be expected that the clinical picture in cases of endocrine tumors may sometimes be obscured by pluriglandular symptoms Moreover a similar picture has apparently been caused by neoplasms of several different glands Non endocrine tumors may cause endocrine effects by destroying or stimulating glands of internal secretion The functionally active primary tumors and tumor like hyperplasias of the various endocrine glands may be divided into a symptomatic group representing a compensatory reaction to a specific hormonic deficiency and a group which arise independently of any bodily need and represent an injurious rather than a beneficial process LEO M ZIMMERMAN M D

SURGICAL PATHOLOGY AND DIAGNOSIS

Terry B T Improvement in Technique and Results Made in Examining Microscopically by the Razor Section Method 2 000 Malignant Tissues *J Lab & Clin Med* 1929 xiv 519

The improved technique described is applicable to fixed as well as to perfectly fresh unfixed tissue Fixation in formalin although usually unnecessary is often very helpful if the unfixed tissues are difficult to handle

The advantages of the former technique have been retained and the disadvantages decreased The razor section method is quickly learned extremely rapid inexpensive noiseless and dependable and does not require carbon dioxide High as well as low powers of the microscope are employed and the method can be used with advantage in or near the operating room The stained sections are however not permanent and they must be examined immediately

Noteworthy improvements are (1) the application of the stain to the upper surface of the tissue with the use of a small camel s hair brush (2) the keeping of the stain on one side only by first filling in the space under the section with water (3) the slicing of minute specimens between corks (4) the staining of very minute specimens under the dissecting microscope and (5) the staining without further section of minute bits of tissue from which frozen sections have been cut

Most tissues fixed or unfixed can be prepared for microscopic examination in less than sixty seconds by the following technique

The area selected is excised and immobilized by pinning it to a cork cutting board The tissue is wet with water and is sectioned with a very sharp smooth wet razor blade The full length of the blade is drawn through the tissue at each stroke A thin plane parallel section is washed in water and then placed on a glass slide The section is covered completely with water drained and then stained superficially on one side only preferably with neutralized polychrome methylene blue applied with a small camel s hair brush The stain is washed off at once with tap water and the section with the stained side down is placed on a cover glass The cover glass is turned over and mounted on a glass slide The stained side of the section is now uppermost Water is run under the cover glass and the specimen is ready for examination by transmitted light For this purpose a shaded 60 watt frosted Mazda bulb can be recommended

The diagnoses made on razor sections of 2 000 malignant tissues by the use of the improved technique and re examination of tissues that have given difficulty have agreed satisfactorily in 98 per cent of the cases with those obtained by the pathologists of the Mayo Clinic using microtomes

plasia of the thymus and so called status lymphaticus or status thymicolymphaticus

He states that while our knowledge of the physiology of the thymus is very imperfect a relationship between the gland and the genital system is evident from the fact that the thymus increases in size up to puberty and then atrophies that castration causes its persistent growth and retards its activity and that its removal hastens the development of the testes

In general the thymus is small in undernourished infants and of moderate size or large in well nourished and overweight infants A tabulation of the weights of a large number of thymuses removed at autopsy showed that the average weight in well nourished children was 13 gm at birth 20 gm at the age of six months and 35 gm at the age of thirteen years and in poorly nourished children it was 8 gm at the age of two weeks 6 gm at the age of six months and 13 gm at the age of thirteen years

Although there are as yet no accepted standards of normality and abnormality of the thymus in the roentgenogram the sole basis on which operation for thymic enlargement is often delayed and the patient is subjected to therapeutic irradiation is the X ray picture The diagnosis of status lymphaticus must be based not on the X ray picture of the thymus, but on the condition of the heart muscle blood vessels and adrenals

Accepting as the sign of thymic enlargement a supracardiac shadow at least 50 per cent of the transverse diameter of the heart Mosher and others found enlargement of the thymus in only 7 per cent of 4 802 children between the ages of two and sixteen years They noted a similarity between deaths from acidosis and those from status lymphaticus

MacLean and Sullivan observed that the prostration of patients dying with symptoms of status lymphaticus simulates sugar shock from overdosage of insulin In 3 cases in which a diagnosis of status lymphaticus was made at autopsy the blood sugar determinations made within a half hour of death which occurred during convulsions were 52 57 and 48 mgm (normal from 80 to 120 mgm) These findings suggest to the author that the immediate cause of sudden death in this condition is acute adrenal insufficiency

Of 1 564 routine autopsies at the Massachusetts General Hospital enlargement of the thymus was found in only 23 Nine of the subjects with this condition were adults and of these 8 had hyperthyroidism and 1 a severe chronic infection

Garland therefore concludes that the importance as well as the frequency of thymic enlargement is generally exaggerated JAMES B BROWN M D

Weber F P Endocrine Tumors *Proc Roy Soc Med* Lond 1929 xxii 415

It has become recognized that the cells of tumors including primary and secondary carcinomatous growths may manifest the same type of functional activity as the tissue from which the tumors arose

The author discusses the endocrine action of primary tumors and tumor like hyperplasias of the various glands of internal secretion In general the functional activity of tumor cells is greater in the early stages of the growth before they have become much altered and degenerated by the rapid and malignant proliferation Although the functional value of an individual tumor cell may be much less than that of a corresponding normal cell the vast increase in the number of cells may produce a cumulative activity greater than that of normal glands. The manifestations of such activity vary according to the age of the patient they are usually most striking in youth

Suprarenal cortical tumors with endocrine activity produce so called virilism This is manifested in the female by the development of masculine features and in the male by precocious physical and sexual development Operative removal of the adrenal tumor has sometimes been followed by disappearance of the virilism The manifestations of virilism may occur to a limited degree from hyperplasia and excessive functional activity of the adrenal cortex without actual tumor formation The variability in the symptoms produced by adrenal cortical tumors probably depends upon the age potentiality for growth sex and constitutional peculiarities of the patient

Tumors of the adrenal medulla suprarenal paragangliomata are accompanied by high blood pressure such as is produced by the excessive secretion of adrenalin Tumors and hyperplasias of the anterior lobe of the pituitary gland cause the various features of acromegaly The manifestations vary greatly depending upon the age of onset and the contitutional factors mentioned

Pituitary tumors have been found associated with other disturbances in which the endocrine rôle of the neoplasm is doubtful

Tumors of the pineal gland may be associated with precocious sexual and bodily development There is considerable doubt as to the relation of the pineal gland to this type of macrogenitosomia

A similar picture is sometimes seen associated with tumors of the testis in boys and removal of the tumor has been followed by disappearance of the abnormal symptoms In one case cited the tumor was found to arise from the interstitial cells of the testis Gynecomastia has also accompanied the development of testicular tumors

Ovarian tumors produce the picture of macrogenitosomia and occasionally of pseudohermaphroditism or virilism After removal of the growth the symptoms sometimes disappear

Several cases of insular pancreatic tumors are on record some with pronounced hyperinsulinism and hypoglycæmia Thyroid tumors are known to have thyroid function and myxœdema has followed the extirpation of such growths

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NOTE —THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

Head

Fatal hæmorrhage secondary to a fracture of the external plate of the skull *R* FONTAINE *and J* DE GIRARDIER Bull et mém Soc nat de chir 1928 liv 1253

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EDITOR'S COMMENT

DIVERTICULITIS and diverticulosis are being recognized with increasing frequency and studied with constantly increasing thoroughness Stern s report of six cases of di verticulum of the duodenum (p 218) Case s roentgen study of colonic diverticula (p 219) and Lockhart Mummery s discussion of the treat ment of acute diverticulitis (p 219) are three particularly interesting contributions on these subjects which have been published in recent months

It is of some interest that discussions on diver ticulitis are considerably more common in British than in American medical literature for it seems unlikely that the condition is more common in Great Britain and on the Continent than in America Attention has previously been called to excellent contributions on this subject by Monsarrat (*Brit M J*, 19 8 ii 41 INT ABST SURG 1929 xlviii 30) and by McKendrick Kerr and Young (*Glasgow M J*, 1928 cx 193 INT ABST SURG 1929 xlviii 228) All of them emphasize the fact that in one group of cases the condition may develop gradually with the picture of a malignant growth and may be mistaken for such and that in a second group with or without pre existing symptoms, perforation may occur and give the symptoms of an acute surgical ab domen In the latter group the diagnosis of acute appendicitis or of acute intestinal obstruc tion is frequently made Mailer s contribution to the discussion of McKendrick s Kerr s and Young s papers is of particular interest—that in a series of 500 autopsies diverticula were found in 34 cases and in practically every instance the site of the lesion was the sigmoid and secondly that approximately 1 patient in 8 over forty five years of age had diverticulosis of the large bowel

In the papers reviewed in this month s issue Stern (p 218) emphasizes particularly the fact that diverticula of the duodenum may be difficult to find at operation and that their removal is indicated only if there is danger of perforation. Lockhart Mummery (p 219) describes clearly the clinical picture of acute diverticulitis pa ticularly of that type involving the pelvic colon, and suggests in its treatment the importance of fixation of the pelvic colon in the left iliac fossa with drainage of the fossa and if possible walling off of the small intestine from the affected area with the aid of omentum

Desjardins in an interesting paper (p 238) dis cusses the status of radiology in America and suggests a number of steps which must be taken if this branch of medical practice is to develop as it should He mentions the lack of well-organized centers for teaching radiology the ease with which one can become a specialist in this branch of medicine and the lack of adequate contact be tween radiology and clinical medicine as some of the important factors interfering with the sound development of radiology as a specialized field of medicine He states that the medical profession is still suffering from the delusion that roentgen ology differs little from photography and this seems to us the most important factor of all Until the medical profession is educated to a recognition of the necessity for an adequate train ing in radiology if the radiologist is to render the highest type of diagnostic service and secure for his patients the maximum benefits from radio therapy it is hopeless to expect that the laity will be able to distinguish between the skillful and well trained radiologist and the individual who with little or no experience opens an 'X ray laboratory' for diagnosis and treatment. Once the medical profession realizes the value and im portance of radiological service of the highest type the education of the laity and their in sistence upon such service will follow just as surely as the demand for skillful and specialized service in the other fields of medicine and surgery

INTERNATIONAL ABSTRACT OF SURGERY

SEPTEMBER 1929

LANDMARKS IN SURGICAL PROGRESS

By IRVING S CUTTER M D Sc D CHICAGO
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WIRE FIXATION OF AN UNUNITED HUMERUS—J KEARNY RODGERS

MANY and varied were the methods adopted by surgeons prior to the dawn of the aseptic era to secure healing in cases of ununited fracture While the incidence of mal union was probably not high the condition was of sufficient frequency to give rise to a voluminous literature Lonsdale[1] reported that out of four thousand fractures treated at the Middlesex Hospital only four or five failed to heal Liston[2] in a most extensive surgical practice met with only one case of ununited fracture Hamilton[3] says that non union does not occur more frequently than once in five hundred cases Arbuthnot Lane[4] is in sharp disagreement with the statistics cited when he says



JOHN KEARNY RODGERS[5]
(1793 1851)

I do not like to think that surgeons of the present day are less successful than their predecessors in obtaining union as precisely the same rude methods were employed by both The probability is that earlier observers were less careful in the examination of the results and this habit of regarding them through rose coloured glasses still clings to the profession particularly as regards the consequences of fractures

If there were any truth in these published statistics it would certainly be difficult to account for the number of cases which I have treated I find that other surgeons also seem to operate on a fair number of them On these grounds I have no hesitation in assuming that the accepted statistics on this subject are as usual utterly false and misleading

The numerous methods proposed in order to secure union are interesting as well as curious some of which may be found in the writings of Celsus[6] Avicenna[6] and others Friction is recommended by Celsus This consisted in forcibly rubbing together the ends of the ununited fragments Norris[7] in an exhaustive article on the occurrence of non union catalogues a long list of methods used and usable for the cure of the condition Among the methods mentioned are the application of blisters to the site of the fracture the application of iodine to the injured part the

Practical Treatise Fractures Lond 838
Robert Liston 794 847
Fred Hamilton Surgery 886
The Operative Treatment of Fractures London 905
A Lane Cor Celsus Edinburgh during the reign of Tiberius Caesar Assemblies 980 36
On the Occurrence of Non Union after Fracture George W Norris (Sept 1875) American Journal Medical Sciences Philadelphia January 842

From painting by Baker in the New York Hospital through the courtesy of the New York Academy of Medicine.

application of strong pressure applied to a plate placed over the point of fracture the application of electricity[1] the intensive use of *mercury to the* point of extreme salivation the application of caustic alkalies over the seat of fracture and the use of a seton This latter proposal was used with great success by Philip Syng Physick of Philadelphia who is credited with its introduction by Boyer[2] Roux and others Boyer refers to Physick as the docteur Philippe S of Philadelphia Roux[3] says

It is for us French surgeons so rare a thing to see a false articulation succeed to a fracture that for several years the operation of White has not been *performed in France* that is to say the resection of the fragments of a bone not consolidated and for several years also that a surgeon of Philadelphia Physick has conceived the ingenious idea of treating the pseudarthrosis by the interposition and temporary abode of a seton between the two ends of the bone not consolidated for the purpose of exciting adhesive inflammation this operation has not been practiced at least to my knowledge by any French surgeon

I was only a month in London yet during that time an opportunity occurred to Mr Charles Bell of employing the method of Physick on a child who had a false articulation consecutive to a fracture of the leg I was even witness to the operation At the same time I saw in St George s hospital a man on whom the operation had been performed on the thigh not more than three weeks before It was the second time that Mr Brodie who is yet but a young surgeon had performed it he had operated for the first time a short time before likewise for a false articulation of the thigh

Roux states that he was not advised as to the outcome of Bell s cas but in one of Brodie s cases the operation was successful

The introduction of a wire between the ends of the fragments was advocated by C L S Somme surgeon of the Civil Hospital of Antwerp His case report is frequently misinterpreted By some authors Somme s case is cited as the first instance in which silver wire was used to bring the ununited fragments into apposition Somme s article[4] appeared under the title A Case of Ununited Fracture of the Thigh Bone Cured by the *Application of a Silver Wire between* the Fractured Extremities After declaring the method of applying friction to the fragments too dangerous and too painful Somme mentions White s operation of resection and the introduction of a seton which Roux saw performed in *London He then proceeds* to describe the introduction of a thread of silver around the site of the non union by means of a trocar and cannula The wire was imbedded in the wound by means *of an incision and was tightened daily* Somme secured complete union in his case withdrawing the silver wire after noting definite evidence of callus formation

Scraping or rasping the ununited ends of the bone is described and advocated by Avicenna though condemned by Guy de Chauliac[5] The injection of stimulating substances between the ends of the bone was advocated by Hubbard a United States naval surgeon Solutions of copper sulphate salt water and port wine were used with a successful result

Resection of the ends of the fragments is credited generally to Charles White of Manchester This procedure while described by ancient writers was according to Boyer probably never actually applied prior to White Boyer tried the method without success and did not believe it a safe or proper procedure Late in 1759 Charles White[6] of Manchester proposed resection of the ends of the bone in a case of ununited fracture of the humerus The case was that of a lad aged nine who was brought to the Royal Infirmary at Manchester The operation proposed and outlined by White was performed by James Burchall[7] a surgeon of Manchester and was entirely successful White sent a report of the case to the Royal Society where it was read March 1 1760 the printed report appearing in the *Philosophical Transactions* for May 1761 This case report was widely copied by the public press and appeared in the *Critical Review* for July, 1761 in the *Universal Magazine* for July 1761 and in the *British Chronicle* of August 5 1761 In the report to the Royal Society White does not mention the operating surgeon by name He says

This method (resection) which I have been proposing was at last resolved upon and I assisted in the operation which was performed by a gentleman of great abilities in his profession on the 3rd of January in the present year (1760)

After the case had become famous Burchall entered upon a lengthy tilt in print with White who published a complete account of the case

Advocated by J h Bu h (745 S 5)
Al xi B yer 757 S33
Phil be t J seph R x, 780– 854 A N rra f J rn y t Londo n S 4, tc Lond S 6 pp 73– 84
Medico-Chirurgical T nsa tion of London xvi, S3
About 3
Charles Whit 7 S S 3
J mes B rch ll p b bly M D t Rh im 1763–6 published see p pe An rysm f th Th gh P fec ly C red tc wh h was mm ic t I to D Will m H ter and ad befor soc ty f phys cian Apr l 765 Medical Obser t nd Inq ries, 766. B hall becam insa 775

Dec 12 & 1827 14 Courtlandt- treet

FACSIMILE REPRODUCTION OF RODGER S CASE REPORT [6]

with addendum letters polemics etc [1] White s method was thereafter referred to in surgical literature usually with favorable comment

In all Norris mentions twenty two methods advocated and used for the relief of non union concluding with amputation which as Somme well says can hardly be considered a means of cure

Almost the last procedure mentioned by Norris is that proposed and practiced by J Kearny Rodgers of New York Rodgers one of the most resourceful of American surgeons drilled the ends of the ununited fragments and brought them into apposition by means of silver wire sutures passed through the drill holes As far as can be determined this is the first case in surgical literature of the actual wiring together of ununited fragments of bone Dupuytren s case[2] so frequently cited was managed by quite a different method In his case Dupuytren resected one of the fragments of an ununited mandible securing apposition by means of a platinum wire passed around the teeth In the case credited to Horeau[3] by both Norris and Gross[4] no operation was performed In his article Horeau describes the case of an army colonel the victim of an ununited fracture of the mandible He did not wire the fragments nor did he wire the teeth but says

Perhaps it would be possible to reduce the mobility of the fragments by strongly fixing the teeth proximal to the fragments

He sums up his report by a statement to the effect that inasmuch as the patient was not seriously discommoded in mastication and since he was a distinguished military gentleman who did not believe in paying attention to light and passing indispositions no attempt was made to relieve the condition It would appear that Gross did not read Horeau's original report for he says in his System of Surgery that Horeau proposed to connect the freshened ends of the bone in firm apposition by means of wire Norris in his article concedes to Horeau the actual performance of wiring an ununited fracture of the mandible Two French surgeons Lujol and Icart in 1775 and 1776 indulged in a delightful bit of verbal vitriol throwing over the merits of introducing coils of wire around the fragments of fresh fractures No mention is made by either of these gentlemen of the application of this method to cases of ununited fractures

Rodger's case was published in the *New York Medical and Physical Journal*, Vol VI 1827 and deserves an outstanding place in the annals of surgical progress Although the operation was repeated several times with success[1] it was exposed to the dangers of the pre Listerian era and because of the large risk involved could not have been extensively practiced It was however the precursor of the modern operations for the coaptation of bony fragments by means of wire bone plates nails screws pegs of bone etc A procedure so bold and in Rodger's hands so successful should not be forgotten

John Kearny Rodgers was born in the city of New York on October 18 1793 the son of a physician Dr John R B Rodgers He was fitted for college at a private school in Basking Ridge New Jersey and entered the sophomore class of Princeton in the autumn of 1808 In a biographical sketch of J Kearny Rodgers prepared by Edward Delafield President S S Smith of Princeton is quoted as remarking to Rodgers that he would never distinguish himself On leaving Princeton Rodgers enrolled as a private pupil under Dr Wright Post and was licensed to practice by the Medical Society of New York in January 1816 receiving his M D degree from the College of Physicians and Surgeons in March of that year He sailed for England in February 1816 enrolling under the great surgeons of the day—Haighton Cline Astley Cooper Abernethy Lawrence and Travers His biographer records the fact that of the four hundred pupils attending Sir Astley Cooper's lectures Rodgers was soon singled out for special attention by the distinguished teacher While in London he gave special attention to diseases of the eye and was later (1820) instrumental in the founding of the New York Eye and Ear Infirmary In 1822 he was appointed one of the surgeons of the New York Hospital Indicative of his wide spread fame was his call to the West Indies to perform an important surgical operation He remained there several months answering many calls upon his surgical skill Living in the day of the ligation of arteries he considered the ligation of the subclavian artery which he performed on October 14 1824 as the high water mark of his surgical career He was the first to tie the left subclavian artery within the scalenus for aneurysm

A bibliography of the writings of this most unusual surgical genius makes but a short list His influence however upon his students and colleagues augured well for surgical progress His death occurred on the tenth of November 1851

[1] John S Havard New York Journal of Medicine and Surgery 1839 p 343

[2] 766–8

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Canuyt G Diffuse Septic Streptococcus Osteomyelitis of the Bones of the Skull (Ostéomyélite septique streptococcique diffuse en plaques sante des os du crane) *Arch internat de laryngol* 1928 xxxiv 1153

Before the era of antisepsis streptococcus osteomyelitis was a frequent complication of skull injuries but today it is usually a sequela of acute or chronic suppuration of the ear or the accessory sinuses of the nose

The case reported by the author was that of a man forty years of age who had had a gibbus since childhood In October 1926 maxillary sinusitis developed on the right side This condition was greatly benefited by irrigation In November 1927 the discharge from the right maxillary sinus recurred and was again treated by irrigation Soon thereafter a swelling appeared in the right frontal region and on trephination the right frontal sinus was found filled with pus The patient then developed glaucoma of both eyes The left eye was treated surgically and the right eye medically As the suppuration in the right maxillary sinus persisted a radical operation on that sinus was performed in January 1928 The headache continued and a swelling of the scalp appeared at the boundary between the frontal and parietal bones The skull was then trephined but this operation was no more successful than the others Subsequently the patient was given intravenous injections of gentian violet and an autogenous vaccine was used In March and April 1928 the right and left frontal sinuses were successively curetted They were full of pus and contained sequestra

The patient was first seen by the author at the end of May 1928 He was then suffering from intense headache particularly on the right side and at night Examination revealed chronic purulent frontal sinusitis with bilateral fistula and a bone fistula into the right frontoparietal region Both nasal fossæ were filled with pus and obstructed by considerable hypertrophy of the two lower and two middle turbinates Both ethmoid and both maxillary sinuses were filled with pus The temperature varied from 37 4 to 37 8 degrees C The Wassermann test of the blood was negative

On June 2 1928 the left inferior turbinate was resected and the left maxillary sinus was opened freely under local anesthesia On June 11 1928 the two frontal sinuses were opened the septum between them was resected the floor was broken down and free drainage was established through the nose On July 5 1928 bilateral external ethmoidectomy was performed At the time this report was made (July 1928) the patient's condition was distinctly better

Bacteriological examination of the pus showed a pure culture of a very virulent type of streptococcus

In making this report the author asks for suggestions from members of the profession as to the further treatment of the case Roentgenograms show such extensive involvement of the skull that resection of bone into normal tissue seems hopeless Autogenous vaccine and serum therapy and chemotherapy in the form of silver salts and iodides have proved useless Roentgen therapy has not been tried

AUDREY G MORGAN M D

Bailey P Wounds of the Superior Longitudinal Sinus *Surg Clin N Am* 1929 ix 395

The diagnosis of wounds of the dural sinuses must be made largely from the site of the injury and the character of the escaping blood When there is no external wound it may be aided by X ray examination or the nature of associated neurological symptoms pointing to a local lesion of the brain

The treatment of wounds of the sinuses presents many difficulties The removal of depressed fragments of bone must be done with the utmost care as there are very numerous records of death from hæmorrhage following the removal of bony fragments which did not cause much bleeding because they plugged their own openings The removal of fragments should be done only by turning down an osteoplastic flap It is probably wise contrary to the rule elsewhere in the intracranial cavity to leave depressed fractures in the region of the longitudinal sinus alone unless an open wound favors infection or symptoms of injury to the brain or intracranial tension render operative intervention advisable

The method of dealing with a tear in a dural sinus varies in different cases Usually packing with gauze has been done In the case reported by the author the tear was small and was readily closed by a bit of muscle In larger wounds ligation has been done successfully but because of the danger of lacerating venous trunks in the underlying brain it is not easy to pass a ligature around the longitudinal sinus and because of the triangular shape and rigid wall of the sinus ligation is not very successful in occluding it Cases have been reported in which wounds have been sutured with fine silk

The best method of dealing with large wounds seems to be to invert the outer wall by pushing into the sinus a rounded object to be retained by pressure or suture HOWARD A MCKNIGHT M D

Schuller A X Ray Examination of Deformities of the Nasopharynx *Inn Otol Rhinol & Laryngol* 1929 xxxviii 109

In cases of difficulty in nasal respiration X ray examination occasionally reveals as the cause a deformity of the base of the skull or the upper cervical vertebræ such as hyperkyphosis of the base of the skull assimilation of the atlas or depression of the middle fossa in craniostenosis In some instances orthopedic treatment may correct the deformity and relieve the nasal obstruction

MANFORD R WALTZ M D

Blair D M The Deep Submaxillary Lymph Glands *Brit M J* 1929 i 443

Blair describes lymphoid tissue occurring within the capsule of the submaxillary gland and in direct relation to the salivary acini Because of this tissue it is impossible to be sure of removing all submaxillary lymph glands present without removing the submaxillary gland itself In Blair's opinion the deep glands may be responsible for the occurrence of cancerous metastases in the salivary gland and may be the site of tuberculosis apparently primary in the submaxillary gland

MANUEL E LICHTENSTEIN M D

Risdon F The Treatment of Fractures of the Jaws *Canadian M Ass J* 1929 xx 260

A general anæsthetic is seldom necessary in the treatment of fractures of the jaws if the cases are seen early The more rigid or fixed the splints can be made the better the results All cases may be conveniently divided into two classes—the dentulous and the edentulous In the treatment of a dentulous case the teeth and their position in relation to the upper jaw are of the greatest importance All fractures of the lower jaw are compound therefore Risdon usually depends on some form of splinting of the teeth to hold the fragments in position

If the lower jaw is fractured in three places with or without considerable displacement an impression of the teeth in each fragment is taken and a metal cast with lugs on the outer surface is cemented to the teeth separately and is drawn up to meet a similar cast appliance cemented to the upper jaw and held in that position until union has occurred This Risdon believes to be the best method

In another method which is less expensive and which can be adapted to most cases in which the teeth are present a piece of bronze wire about 14 in long is doubled and twisted on one end to form a loop with two free ends The free ends are inserted between two teeth one wire being carried distally and the other mesially around the teeth and twisted on the outer or buccal surface around the loop A number of these loops can be applied to the teeth in the upper and lower jaws and brought together with ordinary silk Risdon prefers silk ligatures to wire ligatures because silk is hygroscopic

Another method consists in twisting a wire around certain teeth in the lower jaw and another wire around certain teeth in the upper jaw and then attaching the long ends together by twisting

A fourth method consists in attaching a piece of German silver wire to the upper teeth from molar to molar attaching a similar wire from the outer buccal surface of the lower teeth and then ligating the two wires together

In a fifth method a rubber interdental splint is used the upper and lower being cemented together

There are many other plans which have been advocated but those mentioned should be sufficient for all cases in which the teeth are present

In the treatment of a simple fracture in the edentulous mouth wiring through the bone fragments may be considered but a better method consists in using the patient's denture or some material which will fit over the lower ridge and holding the fragments in position by wiring completely around the bone and denture

Another method consists in holding the artificial teeth together by wire inserted in the mouth and a head band well covered with cotton which is so adjusted that a rubber dam attachment may be placed beneath the chin and tied to the head band at each side thereby holding the jaw well up in position

For fractures of the upper jaw the author uses a cast splint made to fit the upper teeth To the outer surface of the cast is attached a 13 gauge wire which is allowed to project from the angles of the mouth backward as a loop toward the ear on each side To this loop is attached a rubber or factory cotton bandage which passes over the parietal bones or the vault of the skull to a similar loop on the opposite side By this apparatus the fragments of the upper jaw may be forced well up into their former position If the fracture of the upper jaw is unilateral only an upper cast splint is necessary These splints should be kept on for from four to six weeks

As the teeth are held together the food must be in liquid form It should be given every three hours The author suggests eggnog milk potato and water soup milk malted milk and cocoa with malted milk in the early stages and minced meat and mashed potatoes and vegetables later It is never necessary to extract a tooth for feeding if the splints are properly constructed as the fluids have no difficulty in passing through the interspaces

While bony union is to be expected in most cases, the author has had a number of cases in which a bone graft was necessary no union being evident after six months These cases were seen late when fibrous tissue had become interposed between the fragments It was considered wise to hurry the treatment by free grafting but a period of at least months had elapsed since the last evidence of infection was noticed and after dead and infected teeth had been removed In these cases the splints were reinforced before they were cemented in position Roentgen examination six years after the operation showed excellent bony union and the wires still in

position Risdon emphasizes that the wiring was done through sterile areas and all bone grafts were inserted through an incision in the neck He states that in selected cases free bone grafts inserted under favorable conditions should result in bony union in three months EMIL C ROBITSHEK M D

Schroff J Unusual Cysts of the Maxilla Cyst of Nasopalatine Duct Cyst of the Facial Cleft Area (Fissural Cyst) *Laryngoscope* 1929 xxxix 173

The most common cysts of the jaws are the root cyst the follicular cyst and the multilocular cyst or adamantinoma polycysticum These are derived from the epithelial cells of the dental anlage

The author reports two cases of unusual types In the first case epithelial strands or cell rests from the nasopalatine duct in the foramen incisivum gave rise to a cyst in the median line of the maxilla which simulated a root or follicular cyst in that region

In the second case a cyst was formed from epithelial cell rests in the region of fusion of the upper jaw and the lateral and middle nasal processes Such cysts are situated partly in the vestibule of the mouth nose and cheek They may simulate dental cysts but are distinguished from the latter by the fact that they occur on bone and not in bone

In conclusion the author states that the usual classification of cysts of the maxilla should be amplified to include these varieties

JAMES C BRASWELL M D

EYE

Campbell D M and Carter J M Stenosis of the Nasolachrymal Passageways The Resulting Pathological Condition and Its Treatment *Arch Otol rvng* 1929 ix 367

For successful results any treatment of lachrymal duct stenosis must relieve the chief complaints namely overflow of the tears and the collection of pus in the eye Since in some cases complaint is made of overflow of tears after removal of the lachrymal sac the authors advise instead of removal of the sac one of the short-circuiting operations to establish drainage into the middle fossa of the ear They describe in detail an operation which they performed by an external approach and state that they are able to show by roentgen examination that the passageway made in this manner into the middle fossa remains open after four years

MANFORD R WALTZ M D

Calhoun F P The Vascular State and Glaucoma *Am J Ophth* 1929 xii 265

Calhoun made a careful study of the cardiovascular condition of sixty four patients with simple glaucoma The investigation included functional renal tests Wassermann tests and roentgenograms of the aorta

Vascular disease was present in 95 per cent syphilis in 14 per cent and nephritis in 37 per cent The systolic pressure was above normal in 42 per cent and the diastolic pressure was above normal in 57 per cent Dilatation of the heart and aorta was found in 60 per cent Syphilis was more frequent in the younger patients than in the older patients

It is suggested that glaucoma simplex may be caused by a toxin which produces either dilatation of the capillaries with increased permeability of their walls or an increase in the intra ocular capillary pressure SAMUEL A DURR M D

Gifford S R and Hunt C E Ring Abscess of the Cornea *Arch Ophth* 1929 i 494

The authors report four cases of ring abscess of the cornea following injury in which the eye was eviscerated because of panophthalmitis Examination of smears and cultures showed bacillus subtilis in two cases and an organism belonging to the subtilis group in one case In the fourth case no bacteriological examination was made In one case histological examination showed absence of the epithelium and endothelium The infiltration was greatest in the middle layers of the cornea particularly at the periphery VIRGIL WESCOTT M D

Anklesaria M D Detachment of the Retina *Indian Med Ga* 1929 lxiv 186

A myopic boy aged seventeen years suffered a large detachment of the retina in the upper and outer quadrant of the right eye He was at once put to bed at physical and physiological rest Both eyes were bandaged and subconjunctival injections of saline solution beginning with a 4 per cent solution were given in Tenon s capsule over the site of the detachment Each succeeding injection was increased in strength until a 10 per cent solution was reached In all about ten such injections were given Internally 7 gr of urotropin twice daily and a mixture containing potassium iodide sodium salicylate and salines were administered

Improvement was noticed in about a fortnight At the end of six weeks the patient was able to see as well as before and examination of the fundus revealed no sign of detachment Today several years after the detachment the patient s condition still remains normal GEORGE R MCAULIFF M D

Belgelman M N Acute Hypotony in Retinal Detachment *Arch Ophth* 1929 i 463

Acute hypotony complicating retinal detachment was first described by Schnabel in 1876 Mild hypotony is characteristic of retinal detachment not due to tumor but the acute type is comparable to the condition associated with perforation of the sclera with great loss of vitreous The anterior chamber is very deep and the iris is drawn back as in plastic uveitis but is movable and has a tremor Uveal involvement with pericorneal injection congestion of the iris and opacities in the media have been noted The author attempts to draw conclusions as to the origin of acute hypotony in ordinary retinal detachment VIRGIL WESCOTT M D

EAR

Sargnon A and Bertein P Peripheral Facial Paralysis in Otology (La paralysie faciale périphenique en otologie) *Arch internat de laryngol* 1929 xxxv 5

The so-called auricular facial paralyses which are of special interest to the otologist—inflammatory operative and zoster paralyses—are rare and often incomplete Frequently they can be cured by appropriate treatment As the facial nerve is a mixed nerve the disturbances which cause asymmetry of the face are not the only ones to be corrected Disturbances of sensation must also be treated particularly in intrapetrous auricular paralyses which are due to lesions of a mixed nerve at a point beyond the union of the two roots and before the points at which the sensory collaterals are given off

The disturbances of sensation may be studied in the external ear and the anterior two thirds of the tongue on the affected side They are difficult to study because especially in the ear there are supplementary sensory nerves which modify the findings of examination Disturbances of sensation pain particularly are especially marked in the zoster variety of paralysis This is caused by primary infection of the ganglion of the seventh pair of cranial nerves Inflammatory paralyses are generally caused by compression of the nerve by the congested mucous membrane The pressure is exerted on the second and third portions of the facial nerve because of breaks in the aqueduct of Fallopius

Facial paralysis is caused not only by suppurative otitis media but also by congestive otitis without suppuration However caution must be exercised in attributing a paralysis of the facial nerve to a latent catarrh of the ear The decision that a paralysis is of otitic origin must be based on a careful study of all of the subjective and objective symptoms

Operative paralyses also are often due to compression or contusion of the nerve Less frequently they are caused by section Section of the nerve is most common in gunshot injuries of the ear Zoster paralyses quite frequently complicate infection of the geniculate ganglion The sensory and exanthematous symptoms of the infection precede and accompany the paralysis but may be slight and transitory A careful search must be made for them sometimes in other ganglia than those of the facial nerve which are affected at the same time particularly those of the eighth pair of cranial nerves Essential paralyses are now rare Most cases are proved on closer examination to be formes frustes of zoster paralysis of infectious (often syphilitic) or toxic neuritis or of discrete otomastoid catarrh They sometimes seem due to inflammatory vascular disturbances of the bulbar nucleus the exact nature of which is as yet unknown

The treatment of auricular facial paralysis is particularly an otological treatment—early drainage of the infected cavities and nasopharyngeal antisepsis in otitic paralysis and toilet and disinfection of the operative or accidental wound to eliminate all causes of compression and prevent secondary infection of the contused nerve Electrotherapy is a useful adjuvant but should be used with prudence Anti syphilis treatment may be tried for diagnostic purposes Operation should be done with caution and only in late cases After a period of six months or more a paralysis that is apparently final with a complete reaction of degeneration often undergoes spontaneous retrogression In the author's opinion preference should be given to indirect methods which attempt to re establish the symmetry of the face without direct action on the nerve such as tarsorrhaphy lifting of the commissure of the mouth or sympathetic operations

AUDREY G MORGAN M D

Cox G H and Dwyer J G Tuberculosis of the Middle Ear *Arch Otolaryngol* 1929 ix 414

The author has found that in more than 15 per cent of cases of chronic discharge from the ears the discharge is due to aural tuberculosis Infection of the ear by the bovine type of tubercle bacillus is common

Aural tuberculosis is characterized by an insidious onset a painless discharge multiple perforations and slight deafness

The value of heliotherapy in the treatment requires further investigation The best prospects of cure are offered by appropriate local general and climatic treatment combined with injections of tuberculin MANFORD R WALTZ M D

Druss J G Pathways of Infection in Labyrinthitis Report of Three Different Types *Arch Otolaryngol* 1929 ix 39

Infection of the labyrinth is seldom primary The secondary routes are (1) through the round and oval windows and directly through the bony capsule (2) through the internal auditory meatus or aqueductus cochleæ (3) by way of the saccus endolymphaticus (4) by way of the fossa subarcuata and (5) by way of the blood stream The author reports three cases which were examples of infection by the first and second of these routes

MANFORD R WALTZ M D

NOSE AND SINUSES

Jessaman L W The Treatment of Nasal Fractures *New England J Med* 1929 c 753

Replacement of the fragments in fractures of the nose is easy if it is done early but difficult if the fragments have been allowed to unite in a faulty position To maintain proper alignment the author uses a splint of strip iron which is easily moulded as desired This splint is shaped like a tuning fork and especially when pressure is needed is well padded. The handle is placed over the bridge of the nose and up onto the forehead The sides are applied laterally to the nose and held in place by adhesive strips run

ning around the neck below the ear The splint is left in place about a week and can be changed as needed GEORGE R MCAULIFF M D

Dintenfass H Headache from the Standpoint of the Rhinologist *Ann Otol Rhinol & Laryngol* 1929 xxxviii 77

The author states that in the study of headaches of nasal origin it is necessary to take into consideration not only the abnormal conditions of the nasal cavities but also the condition of the adjacent nerve structures Pain is due to trauma One type of trauma is pressure resulting from the infringement of membrane on membrane obstruction to the drainage of a sinus or negative pressure all the direct result of irritation and swelling of the membrane The cause of nasal neuralgias is probably a toxin liberated by infecting micro organisms

Headaches due to intracranial conditions have definite characteristics It is necessary to differentiate between Meckel s ganglion syndrome and gasserian ganglion affections and between pain due to impacted teeth and sinus pain Care must be taken to determine whether pituitary disease is present

The diagnosis of headache due to nasal disorders is aided by the use of cocaine adrenalin and ephedrin and by transillumination X ray examination and sinus puncture Surgery should not be attempted unless there is reasonable certainty that it will be beneficial MANFORD R WALTZ M D

Pickworth F A Confusional Insanity with Empyema of the Sphenoidal Sinus *Brit Med J* 1929 i 721

In the case reported that of a patient fifty one years old there was a history of brain concussion at the age of twenty six years After five years mental disturbances developed but cleared up Ten years later the mental disturbances recurred and persisted

At autopsy the sphenoidal sinus was found full of yellowish pus The cavity was large and almost surrounded the pituitary gland Streptococci and non syphilitic spirochætes were isolated

Reference is made to articles reporting improvement of pituitary symptoms and early acromegalic signs following drainage of the phenoid

GEORGE R MCAULIFF M D

MOUTH

Jurgens H J The Deadly Upper Lip Infection *Illinois Med J* 1929 lv 273

Upper lip infections differ from similar lesions elsewhere because of the following factors

1 The anatomical make up of the parts involved In almost every part of the body the skin rests upon a superficial fascia that separates it from the deeper structures and gives room for expansion when fluids accumulate beneath the skin In the upper lip and nose the fibers of the facial muscles are inserted directly into the skin These fibers run in all directions The blood and lymphatic supply of the parts is very extensive The blood vessels run in between the delicate muscle fibers and the slightest contraction of the fibers causes a temporary local disturbance in the blood supply The whole field is divided into a number of very small cavities separated from each other by these fibers and having no communication with each other Incision will cause the opening up of the cavities through which the knife has passed and the trauma incident to it will tend still further to increase the pressure in the venules with resulting thrombophlebitis The infection can travel by four routes (1) the angular vein to the superior ophthalmic vein to the cavernous sinus (2) the anterior facial vein to the internal jugular vein to the heart and lungs (3) the small nasal vein through the foramen cæcum to the longitudinal sinus and then into the lateral sinus and (4) through the general blood stream by direct extension of the cellulitis and lymphangeitis

2 Trauma produced by the patient in the early stages of the infection by picking and squeezing of the part

3 The absence of physiological rest to the part The continual use of the lip in talking and the taking of nourishment produces pressure in the lip substance which forces the infective material into the little venules

4 The weakness of the wall of leucocytes thrown out to protect the general system from the local infection This is due to the limited space Because of the weakness of this wall there is rapid multiplication of the organism present

The treatment of upper lip infections depends upon the recognition of the causes of the condition and of the route which the infection is following Infections about the face should be treated conservatively at first The lesion should not be squeezed or opened and the part should be placed at rest as much as possible by abstinence from talking and restriction of the diet to liquid food Hot moist applications should be applied

The subsequent treatment will depend upon the course the infection takes SAMUEL KAHN M D

PHARYNX

Rose E and Houser K M The Identity of So Called Agranulocytic Angina Report of a Case *Arch Int Med* 1929 xliii 533

The authors believe that the so-called agranulocytosis is a type of leucopænic reaction to an overwhelming infection They reject the theory that it is a disease entity for the following reasons

1 Marked leucopænia is known to occur in severe infections

2 The multiplicity and variety of the necrotic foci speak against specificity of the angina

3 It is not epidemic

4 It occurs in both sexes

5 No constant etiological agent has been found

6 The visceral lesions are not consistent

7 Satisfactory experimental reproduction of the condition with material obtained from affected patients has not been accomplished

MANFORD R. WALTZ M D

Soukup E Malignant Chordoma of the Nasopharynx (Malignes Nasenrachenchordom) *Casop lek česk* 1928 ii 1561

Benign chordomata of the nasopharyngeal space usually develop without special clinical signs even when they grow to the size of a nut As a rule they are found accidentally at autopsy Malignant chordomata differ from benign chordomata in their size and their infiltration and destruction of surrounding tissues They usually grow toward the brain The clinical symptoms are caused by the pressure of the tumor on the surrounding tissues Death usually results with bulbar symptoms The diagnosis is difficult without histological examination The prognosis is always unfavorable

Chordomata may be primary in the nasopharyngeal space developing from embryonal germs or may originate intracranially from small chordomata at the clivus without clinical signs of injury to the central nervous system In some cases they may develop simultaneously from an intracranial and a hypobasal center

KINDL (Z)

Mackenzie D The Treatment of Cancer of the Pharynx Larynx and Œsophagus by Surgical Diathermy *Ann Otol Rhinol & Laryngol* 1929 xxxviii 32

Diathermy is used in operations on pharyngeal cancers to prevent the entrance of cancer cells into the lymphatic vessels and the sowing of cancer cells in the field of operation It is of value also to destroy bacteria in the tissues adjoining the operative field

Eradicable cancers should be excised *en masse* and ineradicable cancers should be destroyed as much as possible In the author's technique the removal of the growth is preceded by block dissection of the regional glands Hæmorrhage is reduced to the minimum by ligation of the external carotid artery Wyeth's needle is used in dissection of the cervical glands and other delicate work and large glands encountered are punctured in several directions to destroy the cells within them before they are excised The lymphatics between the tonsil and the neck wound are sealed by plunging the needle into the tissues under the angle of the jaw

In the removal of the primary growth the whole surface of the neoplasm is coagulated and the growth then encircled with the sharp diathermy knife in healthy tissue Next the living cells of the growth are destroyed by plunging the knife into it The growth is then removed *en masse* preferably by the slow method to insure deeper coagulation After complete removal of the neoplasm the area from which it was removed is treated with the coagulating terminal and areas which came into contact with the growth are treated with the active terminal

The postoperative treatment consists merely in keeping the operative field clean by syringing it with a mild antiseptic solution

Tumors involving the soft palate are removed with the full thickness of the palate When the tumor is confined to the epiglottis eradication by diathermy is attempted When the faucial pillars are involved the pillars are removed with the tonsil Access to a tumor involving the larynx may be gained from the side (lower lateral pharyngotomy—Trotter) Intrinsic cancer of the larynx is not removed by diathermy because of the danger of bronchopneumonia

Ineradicable cancers are those that have penetrated deeply to the base of the tongue those adherent to bone those situated in the glossoepiglottic fossa the hyoid fossa the introitus laryngis the laryngopharynx and the œsophagus those which are too large and those associated with infected cervical glands which are large and matted together

In the presence of sepsis an eradicable cancer may be quickly rendered ineradicable Diathermy not only kills the cancer cells but sterilizes the field of operation The entire cancer area should be diathermized following ligation of the external carotid artery The results obtained depend upon the depth of penetration of the diathermy and the latter depends on the accessibility of the growth The most difficult area to diathermize is the base of the tongue If the symptoms recur the diathermy treatment should be repeated

Ineradicable cancer of the pyriform fossa and of the introitus laryngis may be more easily approached by suspension and that of the œsophagus by the use of the œsophagoscope and a cylindrical electrode The current should be turned on only when the electrode is in contact with the tumor

Sarcomata respond to radium better than to diathermy and parotid tumors respond better to diathermy than to radium

Diathermy is contraindicated when the neoplasm is in an advanced stage and when the ulcerations are deep and the glands are soft and adherent The combination of radium and the X ray with diathermy is often of great value

MANFORD R. WALTZ M.D

NECK

Guy C C Tumors of the Parathyroid Glands *Surg Gynec & Obst* 1929 xlviii 557

The author reports in detail a case of parathyroid tumor occurring in a woman From a review of the literature he draws the following conclusions

1 Adenomata of the parathyroids are comparatively rare

2 No unquestionable case has been reported in which a tumor developed from a parathyroid rest in the thyroid gland

3 It appears that benign tumors of years duration may suddenly take on malignant characteristics

4 In a case of parathyroid enlargement it is difficult to distinguish definitely between true adenoma formation and hyperplasia

5 The connection between parathyroid neoplasms and bone diseases is not definitely known

6 It appears that compensatory hyperplasia of the remaining parathyroids after removal of one or more of the glands may occur rapidly

7 The histological picture of tumors of the parathyroids varies considerably as regards the predominant cell type R V B Shier M D

Menninger W C. Congenital Syphilis of the Thyroid Gland *Am J Syphilis* 1929 xiii 164

Hyperthyroidism based on congenital syphilis is much less common than hypothyroidism on the same basis In hyperthyroidism the thyroid shows a more acute process in which connective tissue is less evident and the tendency toward gumma formation is more evident than in hypothyroidism The relationship between hyperthyroidism and congenital syphilis is not entirely clear but in some of the reported cases in which the two conditions were associated there seemed to be no doubt that the hyperthyroidism was caused directly by infection of the thyroid gland In 1898 Fuerst reported a case of benign goiter in a child which he attributed to syphilis

In syphilis of the thyroid gland the gland is usually increased in size In cases of hyperthyroidism there is atrophy or incomplete development The earliest lesions of the thyroid in congenital syphilis are found about the walls of the blood vessels Lymphocytic and other round cell infiltration occurs early and frequently an increase in vascularity and dilatation of the capillaries are noted Hutinel states that when the lesions begin during intra uterine life they may interfere with the development of the organ and cause congenital dysplasia of the myxœdematous type Endarteritis and phlebitis are phases of the process Spirochætes are sometimes not in evidence even in the advanced stages whereas in other cases they are present in large numbers R V B Shier M D

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Ferris H W Eight Cases of Tuberculoma of the Brain Found at Necropsy *J Am M Ass* 1929 xcii 1670

Tuberculomata of the brain were found in 8 of 809 autopsies in which the cranial cavity was examined In 7 cases they were multiple and in 7 were accompanied by tuberculous meningitis Four of the subjects were children The cerebrum was involved as frequently as the cerebellum

These findings differ from the usual statistical reports which indicate that tuberculomata are usually single generally occur in children and as a rule are subtentorial LEO M DAVIDOFF M D

Vincent C De Martel T and David M Extirpation of Tumors of the Brain Presentation of Eight Cured Patients (Sur l extirpation des tumeurs du cerveau présentation de huit malades guéris) *Bull et mém Soc méd d hôp de Par* 1929 xlv 41

The authors report eight cases of tumor of the brain in which operation was followed by recovery The tumors included a hydatid cyst tumors of the auditory nerve meningiomata and gliomatous cysts The chances for a successful result from operation are best in cases of tumor of the auditory nerve and meningioma Up to last May the authors total mortality for all types of brain tumors was 50 per cent it is now less than 25 per cent In cases of auditory nerve tumor it is between 10 and 12 per cent In recent months the authors have lost more patients from decompressive craniectomy performed too late than from the removal of tumors even gliomata They state that delay of operation in a case of brain tumor is serious since at a certain stage in the evolution of the disease the patient becomes very sensitive and cannot withstand anæsthesia or the slightest trauma

Persons with brain tumor are too often given roentgen therapy or prolonged specific treatment Roentgen therapy is of value only in cases of adenoma of the hypophysis with symptoms of acromegaly or adiposogenital dystrophy *It should not be used* in other cases until the nature of the tumor has been *determined* by operation The rays affect only tumors with cells of the embryonic type In cases of meningioma neurinoma of the auditory nerve and gliomatous cyst they are useless or dangerous

Not more than 2 per cent of tumors of the brain are of syphilitic origin and with the exception of certain cases of specific optic neuritis very few brain tumors are helped by specific treatment

AUDREY G MORGAN M D

De Martel T The Surgical Treatment of Cerebral Tumors Some Points of Technique (Traitement chirurgical des tumeurs cérébrales quelques points de technique) *J de chir* 1929 xxxiii 1

De Martel recommends local anæsthesia with the patient in a sitting position for all operations for cerebral tumor The sitting position with the head upright diminishes the risk of hæmorrhage and facilitates respiration

For several years the author performed operations for cerebral tumor with the patient sitting astride a chair the head forward on the crossed arms resting on the edge of a table This position is ideal except for nervous agitated or spastic patients In the cases of patients of the latter type general anæsthesia is necessary De Martel now uses an operating chair which he has been improving The chair is described and shown in an illustration The patient s head is kept immobile The patient makes no effort to maintain his position and often he falls asleep during the operation Throughout the operation the surgeon is able to talk to the patient

In protecting the operative field De Martel uses an antiseptic impermeable varnish which is solid and elastic and when applied to the scalp isolates it completely The operation is begun with the free ablation of the posterior arch of the atlas The cranium is then penetrated with the forceps gouge by way of the occipital foramen the bone being divided above until gradually the cerebellum is entirely exposed Sometimes the operation is completed with the use of the forceps gouge alone

The advantage of this technique is that if respiratory arrest occurs the surgeon is ready to incise the bulbar dura immediately whereas when other procedures are employed it is often necessary to delay the incision for several minutes

The creation of large bleeding surfaces must be avoided *A bleeding surface should be* thoroughly dried before another is created by the resection of nervous tissue or the liberation of a tumor It is the careful hæmostasis necessary that makes surgery of cerebral tumors so slow Continuous *lavage of the* operative field with serum at a temperature between 42 and 48 degrees C demonstrates the bleeding *points and favors hæmostasis* The author has designed an apparatus (shown in an illustration) which keeps the serum at the required temperature With it the electrical aspirator is used *To prevent* hæmorrhages from friable tissues included in ligatures or clips pieces of muscle are placed at the bleeding points Rabbit muscle placed on a bleeding surface adheres almost *instantaneously and assures* hæmostasis Later it is absorbed White muscle from the anterior and internal surfaces of the thigh is used

As cerebral operations sometimes require six or seven hours the surgeon should be able to sit down part of the time The author has designed a stool which may be made higher if desired and is fitted with stirrups which make it possible for the surgeon to stand at a raised level This stool will not turn over no matter how far the surgeon leans in any direction

With these appliances and modifications of technique De Martel has been able to reduce the mortality of operations for brain tumors from 60 per cent ten years ago to 25 per cent at the present time

PACE

Nemenov M and Jugenburg A The Roentgen Diagnosis and Roentgen Treatment of Pituitary Tumors (Die Roentgendiagnostik und Roentgentherapie der Hypophysentumoren) *Vestnik Rentgenol* 1928 vi 3

This article reports twenty nine cases of pituitary tumor In eighteen there was acromegaly and in eleven adiposogenital dystrophy It is possible in such cases to determine roentgenologically not only that the sella turcica is changed but also the direction in which the destruction is progressing

The authors describe the recognized symptoms and particularly the roentgen findings in acromegaly In all of the cases reviewed the sella turcica showed marked change and was enlarged In the cases in which ocular symptoms were absent the sella was chiefly deepened and widened anteriorly and downward In three cases there was a connection with the sphenoidal sinus When ocular symptoms were present the sella was widened also in a posterior direction under which circumstances the dorsum sellæ was often destroyed

In eight of the eleven cases of adiposogenital dystrophy the sella was markedly widened in all directions and destroyed usually only the most minute remains of the clinoid process were found

If in an existing acromegaly the sella turcica is unchanged another localization of the elements of the pituitary must be assumed (Erdheim) In such cases the pharyngeal vault is irradiated with radium When on the other hand no changes in the sella turcica are demonstrable in adiposogenital dystrophy it must be assumed that the disease is situated in the midbrain or on the floor of the third ventricle Such cases do not respond to roentgen therapy

The authors used the following technique four or five fields each 6 by 8 cm a focal distance of 23 cm from 180 to 200 kv a filter of 0 5 mm of zinc plus 3 mm of aluminum and four fifths of the skin erythema dose If the process was progressing in the direction of the sphenoidal sinus the roentgen therapy was supplemented with radium irradiation Two applicators each containing 50 mgm and filtered by from 1 to 2 mm of platinum were introduced through the nose and left in place for ten hours The applicators were introduced under the fluoroscope The treatment always resulted in marked and long continued (six to seven years) improvement The headaches ceased or were considerably benefited and vision was markedly improved Of the eighteen patients with acromegaly sixteen were rendered able to work The swelling of the face and extremities receded The ability to work was restored also in almost all of the cases of adiposogenital dystrophy

In certain cases the results can be improved by irradiating other endocrine glands besides the pituitary By irradiation of the ovaries with small doses menstruation may be restored In one case the thymus gland was enlarged and its irradiation resulted in improvement in the blood findings and the general condition

The improvement is generally a lasting one but the fact that under certain conditions a recurrence may develop suddenly and the fact that at autopsy a pituitary tumor is occasionally found in persons who died from an intercurrent disease after the disappearance of all pituitary symptoms indicate that the treatment must be continued for years The intervals between the individual irradiations should not be longer than six months

KAPLUNOVA (Z)

Manikovskij B and Smirnov L A Clinical and Pathologico Anatomical Study of Tumors of the Pineal Gland (Zur Klinik und pathologischen Anatomie der Geschwuelste der Pinealdruese) *Sovre n Psichoneur* 1928 vi 428

The authors report in detail a case of tumor of the pineal gland observed by them The patient was a man twenty two years of age who had been suffering for three or four months from severe headache tinnitus aurium nausea vomiting and increasing loss of hearing and vision After an attack in which he was unconscious for a short time he had become almost completely deaf and blind

When the patient entered the clinic a considerable increase in the intracranial pressure was indicated by severe headache vomiting slowing of the pulse to 60 or 50 beats a minute and pronounced choked disk on both sides In addition the following phenomena were noted disturbances involving the musculature of the eyeball (diplopia ptosis disturbances of convergence and horizontal and vertical nystagmus) irregular dilatation of the pupils with absence of reaction to light a weak reaction of accommodation and visual acuity of 0 9 and 0 7 tinnitus aurium and almost complete deafness a swaying uncertain gait amimia slight paresis of the facial muscles on the left side polyuria mental depression and general lethargy bordering on complete stupor

The rapidly progressive character of the condition the signs of increased intracranial pressure and a number of topical symptoms pointed to the presence of a tumor in the midbrain in the region of the quadrigeminal bodies which probably exerted pressure on the third ventricle

Two decompression operations according to the Cushing technique were performed in seventeen days As these had no immediate results a series of

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Vincent C De Martel T and David M Extirpation of Tumors of the Brain Presentation of Eight Cured Patients (Sur l extirpation des tumeurs du cerveau présentation de huit malades guéris) *Bull et mém Soc méd d hôp de Par* 1929 xlv 41

The authors report eight cases of tumor of the brain in which operation was followed by recovery The tumors included a hydatid cyst tumors of the auditory nerve meningiomata and gliomatous cysts The chances for a successful result from operation are best in cases of tumor of the auditory nerve and meningioma Up to last May the authors total mortality for all types of brain tumors was 50 per cent it is now less than 25 per cent In cases of auditory nerve tumor it is between 10 and 12 per cent In recent months the authors have lost more patients from decompressive craniectomy performed too late than from the removal of tumors even gliomata They state that delay of operation in a case of brain tumor is serious since at a certain stage in the evolution of the disease the patient becomes very sensitive and cannot withstand anæsthesia or the slightest trauma

Persons with brain tumor are too often given roentgen *therapy or prolonged specific treatment* Roentgen therapy is of value only in cases of adenoma of the hypophysis with symptoms of acromegaly or adiposogenital dystrophy It should not be used in other cases until the nature of the tumor has been determined by operation The rays affect only tumors with cells of the embryonic type In cases of meningioma neurinoma of the auditory nerve and gliomatous cyst they are useless or dangerous

Not more than 2 per cent of tumors of the brain are of syphilitic origin and with the exception of certain cases of specific optic neuritis very few brain tumors are helped by specific treatment

ALDREY G MORGAN M D

De Martel T The Surgical Treatment of Cerebral Tumors Some Points of Technique (Traitement chirurgical des tumeurs cérébrales quelques points de technique) *J de chir* 1929 xxxiii 1

De Martel recommends local anæsthesia with the patient in a sitting position for all operations for cerebral tumor The sitting position with the head *upright diminishes the risk of hæmorrhage* and facilitates respiration

For several years the author performed operations for cerebral tumor with the patient sitting astride a chair the head forward on the crossed arms resting on the edge of a table This position is ideal except for nervous agitated or spastic patients In the cases of patients of the latter type general anæsthesia is necessary De Martel now uses an operating chair which he has been improving The chair is described and shown in an illustration The patient s head is kept immobile The patient makes no effort to maintain his position and often he falls *asleep during the operation Throughout* the operation the surgeon is able to talk to the patient

In protecting the operative field De Martel uses an antiseptic impermeable varnish which is solid and elastic and when applied to the scalp isolates it completely The operation is begun with the free ablation of the posterior arch of the atlas The cranium is then penetrated with the forceps gouge by way of the occipital foramen the bone being divided above until gradually *the cerebellum* is entirely exposed Sometimes the operation is completed with the use of the forceps gouge alone

The advantage of this technique is that if respiratory arrest occurs the surgeon is ready to incise the bulbar dura immediately, whereas when other procedures are employed it is often necessary to delay the incision for several minutes

The creation of large bleeding surfaces must be avoided A bleeding surface should be *thoroughly* dried before another is created by the resection of nervous tissue or the liberation of a tumor It is the careful hæmostasis necessary that makes surgery of *cerebral tumors so slow* Continuous lavage of the operative field with serum at a temperature between 42 and 48 degrees C demonstrates the bleeding points and favors hæmostasis The author has designed an apparatus (shown in an illustration) which keeps the serum at the required temperature With it the electrical aspirator is used To prevent hæmorrhages from friable tissues included in ligatures or clips pieces of muscle are placed at the *bleeding points Rabbit muscle placed on* a bleeding surface adheres almost instantaneously and assures hæmostasis Later it is absorbed White muscle from the anterior and internal surfaces of the thigh is used

As cerebral operations sometimes require six or seven hours the surgeon should be able to sit down part of the time The author has designed a stool which may be made higher if desired and is fitted with stirrups which make it possible for the surgeon to stand at a raised level This stool will not turn over no matter how far the surgeon leans in any direction

With these appliances and modifications of technique De Martel has been able to reduce the mortality of operations for brain tumors from 60 per cent ten years ago to 25 per cent at the present time

PACE

Nemenov M and Jugenburg A The Roentgen Diagnosis and Roentgen Treatment of Pituitary Tumors (Die Roentgendiagnostik und Roentgentherapie der Hypophysentumoren) *Vestnik Rentgenol* 1928 vi 3

This article reports twenty nine cases of pituitary tumor In eighteen there was acromegaly and in eleven adiposogenital dystrophy It is possible in such cases to determine roentgenologically not only that the sella turcica is changed but also the direction in which the destruction is progressing

The authors describe the recognized symptoms and particularly the roentgen findings in acromegaly In all of the cases reviewed the sella turcica showed marked change and was enlarged In the cases in which ocular symptoms were absent the sella was chiefly deepened and widened anteriorly and downward In three cases there was a connection with the sphenoidal sinus When ocular symptoms were present the sella was widened also in a posterior direction under which circumstances the dorsum sellæ was often destroyed

In eight of the eleven cases of adiposogenital dystrophy the sella was markedly widened in all directions and destroyed usually only the most minute remains of the clinoid process were found

If in an existing acromegaly the sella turcica is unchanged another localization of the elements of the pituitary must be assumed (Erdheim) In such cases the pharyngeal vault is irradiated with radium When on the other hand no changes in the sella turcica are demonstrable in adipo ogenital dystrophy it must be assumed that the disease is situated in the midbrain or on the floor of the third ventricle Such cases do not respond to roentgen therapy

The authors used the following technique four or five fields each 6 by 8 cm a focal distance of 23 cm from 180 to 200 kv a filter of 0 5 mm of zinc plus 3 mm of aluminum and four fifths of the skin erythema dose If the process was progressing in the direction of the sphenoidal sinus the roentgen therapy was supplemented with radium irradiation Two applicators each containing 50 mgm and filtered by from 1 to 2 mm of platinum were introduced through the nose and left in place for ten hours The applicators were introduced under the fluoroscope The treatment always resulted in marked and long-continued (six to seven years) improvement The headaches ceased or were considerably benefited and vision was markedly improved Of the eighteen patients with acromegaly sixteen were rendered able to work The swelling of the face and extremities receded The ability to work was restored also in almost all of the cases of adiposogenital dystrophy

In certain cases the results can be improved by irradiating other endocrine glands besides the pituitary By irradiation of the ovaries with small doses menstruation may be restored In one case the thymus gland was enlarged and its irradiation resulted in improvement in the blood findings and the general condition

The improvement is generally a lasting one but the fact that under certain conditions a recurrence may develop suddenly and the fact that at autopsy a pituitary tumor is occasionally found in persons who died from an intercurrent disease after the disappearance of all pituitary symptoms indicate that the treatment must be continued for years The intervals between the individual irradiations should not be longer than six months

KAPLUNOVA (Z)

Manikovskij B and Smirnov L A Clinical and Pathologico Anatomical Study of Tumors of the Pineal Gland (Zur Klinik und pathologischen Anatomie der Geschwuelste der Pinealdruese) *Sovrem Psichoneir* 1928 vi 428

The authors report in detail a case of tumor of the pineal gland observed by them The patient was a man twenty two years of age who had been suffering for three or four months from severe headache tinnitus aurium nausea vomiting and increasing loss of hearing and vision After an attack in which he was unconscious for a short time he had become almost completely deaf and blind

When the patient entered the clinic a considerable increase in the intracranial pressure was indicated by severe headache vomiting slowing of the pulse to 60 or 50 beats a minute and pronounced choked disk on both sides In addition the following phenomena were noted disturbances involving the musculature of the eyeball (diplopia ptosis disturbances of convergence and horizontal and vertical nystagmus) irregular dilatation of the pupils with absence of reaction to light a weak reaction of accommodation and visual acuity of 0 9 and 0 7 tinnitus aurium and almost complete deafness a swaying uncertain gait amimia slight paresis of the facial muscles on the left side polyuria mental depression and general lethargy bordering on complete stupor

The rapidly progressive character of the condition the signs of increased intracranial pressure and a number of topical symptoms pointed to the presence of a tumor in the midbrain in the region of the quadrigeminal bodies which probably exerted pressure on the third ventricle

Two decompression operations according to the Cushing technique were performed in seventeen days As these had no immediate results a series of

deep irradiations of the brain were given After the irradiations there was pronounced and immediate improvement in the general condition and the patient became able to return to his usual manner of life Two months later however he had a sudden relapse with the same symptoms as before and his condition became rapidly worse Death occurred at the end of four weeks

Autopsy revealed a brain tumor which exerted pressure on the third ventricle the pulvinar the hypothalamic region the anterior and posterior quadrigeminal bodies the geniculate bodies the thalamus and the upper surface of the cerebellum Histologically the tumor was a pineal blastoma showing here and there involution of the individual cellular bodies

In connection with this case the authors review the few cases of tumor of the pineal gland that have been reported in the literature They compare the symptoms and discuss the differential diagnosis briefly As treatment for such tumors they favor corpus callosum puncture but they warn that in this procedure it is easily possible to strike tumor tissue and cause a profuse hæmorrhage The decompression operation by Cushing's technique is recommended as the first measure to be tried Deep irradiation can give good results only if the tumor is composed of gliomatous tissue The radical operative measures which have been tried in a few cases are included by the authors among the measures which may prove promising in the future

BROCK (Z)

Bazgan J and Enachescu D Experimental Research on Microglia (Recherches expérimentales sur la microglie) *Int d anat path* 1929 vi 43

This article is based on nine experiments carried out on rabbits and dogs Some of the brains used were traumatized by a foreign body and others were inoculated by means of trephination with a fixed virus or a dilute culture of staphylococcus Three of the brains were those of dogs which had been made mad by the rue virus The various pathogenic agents introduced into the cranial cavity by trephination provoked a severe vascular lesion The microglial reaction in this case manifested itself by proliferation and hypertrophy The relationship between the vascular reaction and the microglia was quite evident In the authors opinion the latter is of mesodermic origin PACE

SPINAL CORD AND ITS COVERINGS

Globus J H and Doshay L J Venous Dilatations and Other Intraspinal Vessel Alterations Including True Angiomata with Signs and Symptoms of Cord Compression A Report of Four Cases with a Review of the Literature *Surg Gynec & Obst* 1929 xl iii 345

The authors discuss intraspinal venous dilatations arterial or arteriovenous aneurisms and hæmangiomata The hæmangiomata are of four types the intramedullary the extramedullary (pial) the extradural and the vertebral.

From a study of twenty-eight cases of venous dilatations they draw the following conclusions

1 Venous angiomata of spinal vessels are not as rare as was formerly believed They occur chiefly in the fourth decade of life

2 Most of them very closely simulate clinically extramedullary tumors but differ in that they more frequently show atypical manifestations and in that no subarachnoid block may be disclosed by manometric or lipiodol tests

3 Exploration is warranted If the involvement extends into the substance of the cord decompression is all that should be undertaken

Cases of arterial or arteriovenous aneurism clinically resemble those of venous dilatation but morphologically they are identical with those described by others as involving the base of the brain

With regard to hæmangiomata the authors draw the following conclusions

1 Clinically hæmangiomata are more apt than venous dilatations to give signs of cord compression

2 A clinical differentiation between hæmangiomata of various localizations is very difficult although in cases in which bone rarefaction has accompanied vertebral hæmangiomata the X ray may be of some help

3 Laminectomy is indicated as the prospects for removal and permanent cure are good particularly in cases of the extramedullary or extradural type

FRIC OLDBERG M D

Vitek J Diagnostic and Therapeutic Puncture of Syringomyelia Cavities (La ponction dorsale thérapeutique et diagnostique des cavité syringomyéliques) *Bruxelles méd* 1929 ix 311

The author reports three cases of syringomyelia in which endomyelography was done in the Neurological Clinic of Prague In this procedure from ½ to 1 c cm of lipiodol is injected into the syringomyelia cavity by simple dorsal lumbar puncture The puncture is made at the point where the cavity is most extensive After the intra ependymal injection of the lipiodol the fluid contained in the syringomyelia cavity may be evacuated The evacuation constitutes a decompressive puncture In the author's cases decompression was followed by rapid improvement in the spasticity of the lower limbs and of the pain in the upper limbs which were probably due to the pressure of the intra-ependymal fluid

Dorsal puncture of the syringomyelia cavity is very simple The patient is placed on his right side and a puncture is made exactly in the midline under local anæsthesia When the spinal fluid begins to flow the needle is carefully advanced until it punctures the posterior columns of Goll and Burdach when the patient feels a transitory pain The syringomyelia fluid is then evacuated and the pain ceases

In one of the author's cases the injection was followed by a slight rise in the temperature and weakness As in this case all of the syringomyelia fluid was withdrawn Vitek no longer recommends complete evacuation of the cavity

In conclusion Vitek states that the method is free from danger and is therefore greatly to be preferred to the laminectomy and incision of the cord practiced by Pou ep AUDREY G MORGAN M D

Stebbing G F Chordotomy *Lancet* 1929 ccxvi 654

The author reports briefly upon seventeen cases of severe pain due to various causes which he treated by section of the anterolateral columns of the spinal cord Two patients died of the operation The fifteen who survived obtained a certain measure of relief In cases of carcinoma the relief is often not complete but as a rule it lasts as long as the patient lives In cases of tabes the immediate results are very satisfactory but the pain tends to recur at the end of about a year LEO M DAVIDOFF M D

SYMPATHETIC NERVES

Goebell Operation for Asthma—a Critical Consideration (Zur Kritik der Asthmaoperation) *Zentralbl f Chir* 1928 p 2858

Goebell recalls that a number of surgeons including Schilf Sauerbruch von Mueller and Lick have rejected Kuemmell's proposal to treat bronchial asthma by operation since with Storm Van Leeuwen they expect better results from anti allergic treatments most patients with asthma being allergic Whichever method of treatment is used it is justifiable to speak of cure only when the patient has remained free from attacks for at least five years after the treatment

Encouraged by the success of operative treatment in one case (the operation consisted of bilateral sympathectomy) Goebell attempted to cure bronchial asthma by operation in a series of 98 cases The operation consisted in unilateral or bilateral sympathectomy from a horizontal incision a finger breadth above the clavicle It is important to divide as nearly as possible all of the sympathetic fibers connecting the brain and the lungs Hence Goebell removed all of the sympathetic cervical ganglia that could be reached from this incision including the first thoracic ganglion In the majority of the cases however the desired result was not attained He therefore advises that operation be reserved for cases that have been treated without success by internal methods

In the discussion STOECK (Hamburg) emphasized the great difficulty of excluding the motor innervation of the lungs with certainty Research by his assistant Braeucker has shown that the lungs receive fibers from the vagus by way of the anterior and posterior rami bronchiales Only the posterior branches contain motor constituents for the finer bronchioli The sympathetic portion passes from the inferior cervical ganglion or the thoracic ganglion to the pulmonary plexus In addition there are anastomoses between the vagus and the sympathetic It is therefore absolutely necessary to exclude the posterior pulmonary plexus in thoracotomy under positive pressure The success of any other operative intervention on the vagus or sympathetic is a matter of chance However even when the operation is performed in the manner described asthmatic attacks are possible because of the presence in the wall of the bronchial tree of an automatically functioning ganglionic nervous apparatus This apparatus may be excited by allergic substances hormones etc in the blood or by direct irritation from the lungs In such case operation is indicated only if psychic factors can be excluded and careful examination shows that the irritation causing the asthma travels over the posterior pulmonary plexus In the few cases of this type operative intervention gives good results

LENGEMANN reported on twenty seven patients upon whom he operated three years ago and of whom only three are today cured

FRUEND (Osnabrueck) obtained a cure or improvement in 30 per cent of his cases by operation and in 70 per cent by roentgen irradiation He therefore believes that roentgen irradiation should always be given first at intervals of several months and that operation should be done only *if roentgen* treatment fails

In closing the discussion KUEMMELL pointed out that his asthma operation is intended only *for cases* in which other therapeutic measures have proved useless In such cases he has obtained a cure in 40 per cent and considerable *improvement* in 30 per cent TRAUM (Z)

Hesse E Further Research on the Surgical Treatment of Angina Pectoris with Particular Regard to the Permanent Results (Weitere Untersuchungen ueber die chirurgische Behandlung der Angina pectoris unter besonderer Beruecksichtigung der Dauererfolge) *Zischr soirem Chir* 1928 iii 975

The accumulated experience of the last few years has resulted in important changes in the indications *for* and the technique of operations for angina pectoris

The author first reports 8 cases, in 4 of which *not a single* attack has occurred since the operation performed from one and a half to three and a half *years ago* Three of the patients died—in five and a half weeks after the operation in apparently good condition and without an attack another four months after the operation and the third whose *condition* was hopeless seven days after the operation The cause of all of the deaths was progressive coronary sclerosis In 1 case there was no improvement

The 129 cases reported in the literature and the author's 8 cases are subjected to a critical discussion The results *of* operation were favorable in 65 per

cent and unfavorable in 17 per cent The primary mortality was 13 per cent Fifty per cent of the early deaths were due to decompensation of the heart The mortality was highest in cases treated by total sympathectomy There were 10 late deaths 6 from progressive heart changes In 5 cases in *spite of grave changes and a fatal outcome* there were no further attacks The end results (after from one and a half to nine years) are reported for 17 cases In all they were excellent

Partial sympathectomy is to be preferred to total sympathectomy The experimental results also speak against the latter Partial sympathectomy is technically easier and may be carried out under local anæsthesia Of the various modifications partial inferior sympathectomy—resection of the upper and middle ganglia—is best This method gives excellent results in 80 per cent of the cases The mortality is 10 per cent Isolated depressorotomy should be abandoned The nerve is extremely variable and frequently cannot be found This operation has a mortality of 20 per cent

The author reports a case with severe anginal attacks in which division of the sympathetic nerve was followed by immediate cessation of the pain also a case in which under the same conditions division of the depressor had no result but when division of the sympathetic was done later the pain was relieved immediately

An unfavorable sequela of extirpation of the superior ganglion is facial neuralgia The author has avoided this complication by dividing the superior ganglion in its middle portion a little above the entrance of the superior cardiac nerve He has demonstrated the value of this procedure in 37 *sympathectomies for various conditions*

The question as to the side on which the operation should be done is an important one The author does not agree with the majority of surgeons who always operate on the left side He believes that the decision must be based on the findings in the particular case He has found that attacks of angina pectoris are often accompanied by irritation of the sympathetic nerve This is usually unilateral seldom bilateral Therefore operation should be done either on the left side or on the right rarely bilaterally Non-observance of this rule leads to failure

Contra indications to the operation are total decompensation myocarditis and cardiac defects Coronary thrombosis is not a contra indication Experience in 5 cases showed that this condition can be rendered painless for a long time Syphilitic *aortitis is not a contra indication* but demands preoperative specific treatment If the latter is not successful operative intervention should be undertaken only in severe cases Sympathectomy lowers the blood pressure and thereby acts on the basic disease

HESSE (2)

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Moir P J Traumatic Fat Necrosis of the Breast *Brit M J* 1929 i 640

Moir reports a case of fat necrosis of the breast occurring in a woman fifty three years of age who had received a sharp blow in the right breast two months previously Examination revealed a nodule 1 5 in in diameter in the upper outer quadrant of the breast The nodule was hard well defined and attached to the skin superficially but not deeply fixed There were no enlarged axillary glands A diagnosis of carcinoma of the breast was made and radical removal was done

Microscopic examination showed the lesion to be a subacute inflammatory process with evidence of necrosis and without neoplastic change The adipose rather than the glandular tissue was affected

This condition corresponds to that first described as traumatic fat necrosis by Lee and Adair in 1920 It was reproduced experimentally by Farr in 1923 by pinching with forceps the subcutaneous fat of young pigs Sections of the injured areas showed the typical histological picture of fat necrosis The condition has been termed also subacute panniculitis and has been found to occur in the omentum in fat in the femoral canal and in the subcutaneous fat in different parts of the body

MANUEL E LICHTENSTEIN M D

Kueckens H A Localized Lymphogranuloma of the Chest in the Form of a Breast Tumor (Ein lokales Lymphogranulom der Brust in Form eines Mammatumors) *Beitr path Anat u allg Path* 1928 lxxx 135

In the case of a girl sixteen years of age a tumor developed on the anterior chest wall at the level of the fourth and fifth ribs within a period of a few weeks The clinical picture suggested a cold abscess from caries of a rib which had extended into the surrounding tissues and the right breast At first conservative treatment was given but as the swelling of the breast soon increased visibly and assumed the appearance of a malignant tumor operation was regarded as advisable

At operation the right breast and the underlying layers of muscle were found to be diffusely infiltrated by grayish white growths which everywhere had penetrated between the tissues Above the infiltration extended to the axilla but the deeper and posterior portions of the axilla were not involved Medially the growth extended to the sternum and over onto the left side of the chest nearly to the left breast No relation of the condition to the ribs or the intercostal spaces could be determined and careful examination failed to reveal adenopathy in the neck inguinal region or abdomen There was no change in the mediastinum and no enlargement of the spleen

Histological examination of the curetted material showed that the condition was a typical localized lymphogranulomatosis Localized granulomata have been described repeatedly Kaufmann in his text book states that local lymphogranulomata may show an infiltrating destructive growth However it is not necessary because of this growth to ascribe a peculiarly malignant quality a sarcomatous tendency to lymphogranulomatosis The term malignant granuloma (Benda) is not justified on the basis of this characteristic alone ZILLMER (Z)

TRACHEA LUNGS AND PLEURA

Farr C E and Spiegel R Pulmonary Infarction and Embolism *Ann Surg* 1929 lxxxix 481

Thrombi are formed as the result of changes in the blood plasma the blood stream or the vessel walls They may be organized and produce only a local reaction or may be friable and cause serious disturbances elsewhere in the body The formation of an embolus depends upon changes involving the thrombus A suppurative process within the vessel wall with loosening of the thrombus is most likely to terminate in embolism whereas cicatrization by the intimal cells or canalization by central softening and peripheral organization has a more favorable outcome An embolus is not as likely to be dislodged from a thrombus in a small vein as from a thrombus in a large vein in which the force of the blood stream is much greater The rôle of infection in the formation of thrombi has not been definitely determined Aseptic surgery has not greatly diminished the frequency of thrombosis Trauma at the time of operation does not seem to be an important factor in the etiology

In sixteen autopsied cases of pulmonary embolism reviewed by the authors the thrombosis occurred in the femoral internal iliac or common iliac vein and more frequently on the left side than the right side In a case in which thoracotomy was done no phlebitis was found In a case in which the right breast had been amputated the right axillary vein was found disintegrated In many cases there were warning pulmonary signs and symptoms The type of anæsthesia used did not seem to be an important factor None of the patients manifested any clinical evidence of thrombosis even though the condition proved to be extensive

In twenty cases diagnosed clinically which did not come to autopsy the ages of the patients ranged from twenty two to thirty five years The average age of the patients who recovered was thirty five

cent and unfavorable in 17 per cent The primary mortality was 13 per cent Fifty per cent of the early deaths were due to decompensation of the heart The mortality was highest in cases treated by total sympathectomy There were 10 late deaths 6 from progressive heart changes In 5 cases in spite of grave changes and a fatal outcome there were no further attacks The end results (after from one and a half to nine years) are reported for 17 cases In all they were excellent

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HESSE (Z)

Myerson reports the case of a man forty seven years of age who gave a history of pain in the left side of the chest and attacks of dyspnœa and cough followed later by expectoration which had been present for eighteen months During that time the patient had been hospitalized three times but no bronchoscopic examination had been made The attacks of dyspnœa were inspiratory and had increased in severity until they were practically continuous The asthma was ascribed to myocardial insufficiency due to a diffuse bronchopulmonary fibrosis and pulmonary emphysema Because of the patient's sensitivity to dust he had been given a series of injections of dust suspensions but these had failed to relieve him He was thought also to have a neurosis

Bronchoscopy revealed a dilated bronchus in the left lower lobe with pus coming from the terminal branches on expiration Roentgenography with iodized oil revealed many bronchiectatic cavities behind the heart

When the patient was seen again three months later the physical signs indicated stenosis of the left bronchus with atelectasis of the lung and displacement of the trachea and heart to the left On bronchoscopic examination the left main bronchus was found filled by a large mass just above the origin of the upper lobe branch Fluoroscopy and roentgenography with iodized oil showed complete obstruction of the left side and an oblique view of the chest revealed a bilobular tumor in the region of the left main bronchus The posterior lobe was cystic and about one and one half times the size of the anterior mass from which it seemed to have its origin Rupture of the cyst allowed the left lung to become aerated and the trachea and heart to return to their normal relative positions The mass was then seen to be sessile and attached to the roof of the main bronchus just above the upper lobe branch Attempts to pass a wire snare around the tumor were unsuccessful Removal of the mass was finally accomplished three weeks later by the use of the Yankauer forceps

The mass proved to be a fibrolipoma measuring 23 by 16 by 6 mm

Bronchoscopy three months later revealed disappearance of the dilatation caused by the neoplasm and marked improvement of the bronchiectasis of the left lower lobe

A total of twenty six neoplasms of the bronchus have been found—the eleven which were removed bronchoscopically and fifteen which were found at autopsy The endothelioma reported by Jackson and the carcinoma reported by Orton were not suspected of malignancy as they had the gross characteristics of benign tumors There has been no recurrence in either case Myerson presents tables showing the distribution and variety of the twenty six neoplasms

The neoplasms cause a secondary bronchiectasis in the structures toward the periphery This was noted by Biemer in 1860 who showed that during expiration there is increased intrabronchial pressure aggravated by the cough which is increased by the bronchiectasis There is loss of elasticity of the bronchial wall with resultant thinning and weakening of the wall E S Platt M D

Nissen R Endopleural Diseases After Trauma of the Chest Wall (Endopleurale Erkrankungen nach Trauma des Brustkorbes) *Deutsche Ztschr f Chir* 1928 ccxii 186

First to be mentioned of the endopleural conditions following trauma are the varying pains caused by pleural adhesions either localized bands or adhesions completely obliterating the pleural cavity When the adhesions are in the region of the pericardium they may cause attacks similar to those of angina pectoris The fracture of a single rib is rarely associated with injury of the pleura but in extensive fractures of the ribs such as are frequent in severe compression injuries of the chest healing occurs with deformity the clinical results of which vary according to the site of the fracture and the extent of the depression

The author describes the sequelæ of empyema residual empyema cavities chylous effusions biliary effusions etc the development of pulmonary hernia injuries of the diaphragm posttraumatic diseases of the lungs and penetrating wounds He discusses also the relationship between tuberculosis and injuries of the lungs a relationship which is possible theoretically but not common and reviews briefly the development of bronchial fistulæ after destruction of the lung tissue by various causes their symptoms and their surgical treatment

In conclusion he discusses injuries of the heart and pericardium which particularly in the weak wall of the ventricle are manifested by nervous reflex disturbances of cardiac function Marwedel (Z)

HEART AND PERICARDIUM

Bates W A Stab Wound of the Left Ventricle *Ann Surg* 1929 lxxxix 625

The patient whose case is reported a man twenty eight years of age was admitted to the hospital with a stab wound 1½ in long at the left lateral border of the sternum

Examination of the wound demonstrated that the knife had passed through the costochondral juncture of the third and fourth ribs Enlargement of the pericardial wound revealed in the wall of the left ventricle an opening from which there was considerable bleeding This opening was closed with chromic catgut sutures and the pericardium irrigated with normal salt solution While the pericardium was being sutured the heart beat stopped but was re-established by finger irritation and the intravenous injection of a 1 1 000 solution of adrenalin in normal salt solution A drain down to the pericardium was left in place and the wound closed

Convalescence was satisfactory Immediately after the operation the leucocyte count was 10 200 per cubic millimeter and just prior to the patient's discharge 10 400 The Wassermann reaction was

years and the average age of those who died forty two years

The authors review also fifteen cases of post operative pulmonary infarction Bronchopneumonia is differentiated from this condition by a history of bronchitis a more gradual onset less marked pain and the absence of blood from the sputum The physical signs of the two conditions may be similar The authors patients with postoperative pulmonary infarction were younger than those with pulmonary embolism and the infarction occurred earlier in the postoperative period than the embolism

In fatal cases of pulmonary embolism cardiac embarrassment seems to be more important than the sudden encroachment on the margin of safety in the lung tissue

In the authors opinion sitting up in bed getting out of bed and straining at stool are not of importance in precipitating embolism

WILLIAM J PICKETT M D

Krigl K The Development of Bronchial Cysts (Ueber die Entwicklung der Bronchialcysten) *Festschr f Bella Ent* 1928 p 191

Autopsy revealed in a man twenty two years of age a tense cyst the size of a fist in the left pleural cavity medial to and below the lower lobe of the left lung The circumference of the cyst was 310 mm Its walls were translucent and from 3 to 4 mm thick The cyst was attached to the hilum of the left lung by a broad based pedicle and was covered above and laterally by smooth pleura The left lung and the aorta were distinctly hypoplastic A branch of the left main bronchus was continuous with the cyst wall

The cyst was unilocular and contained a dark brown somewhat viscid fluid and a gelatinous mass Its walls contained islands of cartilaginous consistency Its inner surface was lined by one or more layers of squamous epithelium but areas were present which resembled cylindrical epithelium The pedicle of the cyst contained islands of hyaline cartilage and spaces lined with cylindrical ciliated epithelium

The location and histological character of the cyst indicate that it was of bronchial origin The author believes that the developmental disturbance occurred during intra uterine life before the formation of the bronchi MAKAI (Z)

Hunt T C Pulmonary Neoplasms *Lancet* 1929 ccxvi 759

Hunt reviews twenty six cases of carcinoma of the lung which came to autopsy In twenty-one the tumor was of the oat-celled type in three it showed mixed polygonal and columnar cells and in two it showed squamous cells The oat-celled type of tumor is considered to be a true bronchial mucosa tumor or a growth of the alveolar lung epithelium itself

In the twenty-six cases the ratio of men to women was 3 1 The average age was fifty years The youngest patient was twenty seven years old and the oldest seventy nine years The average duration of the condition from the first symptom to death was six months the shortest one and one half months and the longest seventeen months The growth involved the right lung in sixteen cases and the right upper lobe in nine cases In many cases the condition had been preceded by bronchitis or influenza The course of carcinoma of the lung is slow and gradual the growth being well advanced when the patient complains of the first symptoms

There are no characteristic symptoms In many of the cases reviewed there was pain in the chest due to an associated localized pleurisy Pressure on the adjacent structures by the tumor produced various symptoms such as hoarseness dysphagia dyspnea, stridor and œdema of the upper extremity or the face Hæmoptysis occurred in twelve cases and in twelve there were signs of pleurisy with effusion In five of the latter the fluid was hæmorrhagic and in one it was purulent The diagnosis depended on the exclusion of tuberculosis and true mediastinal tumor and the X ray findings According to Kirklen the three roentgen characteristics are density of the hilum atelectasis and bronchiectasis

Of the twenty six cases eighteen were correctly diagnosed before death The treatment was only palliative Deep X ray therapy gave temporary relief but did not check the course of the disease

MANUEL E. LICHTENSTEIN *M D*

Myerson M C. Benign Neoplasms of the Bronchus Report of a Case of Bronchoscopic Removal of a Fibrolipoma from the Left Main Bronchus *Arch Otolaryngol* 1929 ix 376

Benign neoplasms of the bronchi are benign only in the histological sense The growth of the tumors causes obstruction of the air passages and decreases pulmonary function and vital capacity

Ten neoplasms have been removed from the bronchi by means of the bronchoscope The first was an enchondroma removed from the left main bronchus by von Eicken in 1907 and the second, a fibrous polypoid tumor removed from the right main bronchus by means of a bronchoscope introduced through a tracheotomy opening by Spees in 1910 In 1915 Jackson reported the removal of a fibroma from the lip of the bronchus of the left upper lobe and in 1917 the removal of a pedunculated endothelioma which was obstructing the right main bronchus In 1920 both Pfeiffer and Yankauer reported the removal of a fibroma from the left main bronchus In 1924 Orton reported a carcinoma resembling a polyp which was removed from the right main bronchus Jesberg in 1926 reported the removal of a polyp from the left main bronchus of a six year old child in whom the presence of a foreign body was suspected In the past year the removal of fibromata was reported by Zinn and by Burrell and Trail In the case reported by Burrell and Trail obstruction was revealed by roentgenography with 40 per cent iodized oil and the fibroma was removed bronchoscopically by Negus

methods Aids in the treatment of this disease are irrigation of the pleural cavity by various antiseptic solutions after thoracotomy and measures to promote expansion of the collapsed areas of the diseased lung Chronic empyema presents one of the most difficult problems in lung surgery X ray examination is essential in the diagnosis and treatment The various operations devised for this condition are thoracoplastic procedures to collapse the chest wall to meet the lung discission and chemical decortication All have a high mortality

Pus developing in the pleural cavity is a serious complication of pulmonary and pleural tuberculosis Such cases should never be treated by open drainage The introduction of oil into the pleural cavity has been done with some success in cases of tuberculous effusion

Hæmothorax when not the result of injury is usually a serious and rapidly fatal condition In the small uninfected hæmothorax absorption usually occurs but when the effusion is large aspiration should be done early In acute infected hæmothorax immediate drainage is indicated

Benign tumors of the pleura may frequently be removed surgically but malignant tumors are rarely diagnosed early enough to be treated surgically

In mediastinal conditions surgery is still restricted In acute localized mediastinal abscess drainage may be done if the abscess is accessible Mediastinal tumors which are benign can be removed surgically as a rule Malignant tumors are practically never treated successfully by operation

J Frank Doughty M D

strongly positive Cardiac dullness was increased to the left Five days after the operation the electrocardiogram demonstrated acute coronary occlusion This was overcome but recurred in a mild form two weeks later When the patient was discharged one month after the injury the wound was healed there was no evidence of coronary occlusion and he was able to do some work Energetic anti syphilis treatment was given WILLIAM J PICKETT M D

MISCELLANEOUS

Bettman R B The Treatment of Injuries of the Chest *Im J Surg* 19 9 vi 449

The author describes the treatment of chest injuries and illustrates several phases by diagrams He emphasizes that all sucking wounds of the chest should be immediately closed In a case of closed pneumothorax with severe dyspnœa air may be aspirated from the pleural space In the presence of *marked dyspnœa following a chest injury the intra* pleural pressure should be determined by means of a manometer If a positive pressure pneumothorax exists provision should be made for the escape of the pleural air

Hæmorrhage from the intercostal arteries is best controlled by encircling the entire rib with a heavy suture Large lacerations of the lungs should be repaired

As the thoracic cavity is as easily explored as the abdominal cavity exploration should be done when indicated J FRANK DOUGHTY M D

Möller P F Congenital Thoracic Cysts and Lung Deformities in the Roentgen Picture *Acta radiol* 1928 ix 460

The author reports a case of congenital mediastinal cyst diagnosed by roentgen examination and *cured by operation Following a discussion of con* genital cystic formations in the lung he reports five cases of congenital bronchiectatic cystic formations which were also diagnosed with the X ray One of these formations probably developed from an accessory lung The roentgen picture may be mistaken for that of cavernous tuberculosis The most notable roentgenological feature is the peculiar disposition of the cavities in relation to one another *in an irregular arrangement each sharply* delimited and separated from the others by a fine network of consolidations without any intervening infiltrations or pulmonary tissue

Young R A *A Medical Review of the Surgery of* the Chest *Lancet* 1929 ccxvi 593 697 895

Roentgenological examination of the chest is of great value and has been greatly facilitated by the use of lipiodol Thoracoplasty is never justified without X ray examination Other important procedures in the diagnosis of chest conditions are bronchoscopy thoracoscopy and laboratory tests

The surgery of the chest has been advanced by the development of anæsthetic apparatus capable of controlling the degree of inflation and deflation of the lungs by the use of local anæsthesia and by *improvements in technique* which lessen shock and exposure

Surgery of the chest is of value to place an involved part at rest to evacuate abnormal exudates, to remove foreign bodies new growths and diseased or damaged lung tissue to collapse cavities and to effect decompression when there is a disturbance of intrathoracic relations

In pulmonary tuberculosis collapse therapy is *indicated when the disease is confined to one le* and is slowly progressive or chronic Artificial pneumothorax is indicated as a deliberate treatment in cases of repeated hæmorrhage and as an emergency measure in severe hæmoptysis Thoracoplasty should be considered only when artificial pneumothorax has failed to stop the hæmorrhage and when artificial pneumothorax and avulsion of the phrenic nerve have failed to control the progress *of the disease Collapse treatment may be contra* indicated in pulmonary tuberculosis by the character and extent of the disease the patient's general condition *or temperament* or *complications*

Paravertebral thoracoplasty is now the standard surgical method of inducing pulmonary collapse. When it is performed by experts its mortality is between 5 and 10 per cent

Collapse therapy is aided by the stretching and *cutting of adhesions extrapleural* pneumolysis avulsion of the phrenic nerve and obliterative pneumothorax

In lung abscess it is important to determine the cause of the condition as this may influence the treatment Drainage of an acute lung abscess is to be avoided until localization and encapsulation have occurred Surgical drainage of subacute and chronic lung abscesses often yields striking results

Tumors of the lung are usually malignant and are rarely amenable to surgical treatment except when the primary growth originated in the parenchyma at a distance from the hilum in which case lobectomy may be practicable

In bronchial conditions surgery is *indicated for* the removal of foreign bodies and new growths the closure of fistulæ and the treatment of bronchiectasis Foreign bodies and new growths may be removed with the bronchoscope

The chief surgical operations suggested for bronchiectasis are (1) drainage by pneumotomy which is suitable only when there is a single large cavity (2) ligation of a branch of the pulmonary artery to the affected lobe (*practically* obsolete) (3) avulsion of the phrenic nerve (4) thoracoplasty (5) surgical lobectomy and (6) cautery lobectomy The mortality of surgical lobectomy is about 30 per cent and that of cautery lobectomy 20 per cent

In empyema the etiology is a factor of *importance* determining the time and type of operation The methods used in acute empyema are aspiration drainage by closed methods by thoracotomy *with or without rib resection* and drainage by open

methods Aids in the treatment of this disease are irrigation of the pleural cavity by various antiseptic solutions after thoracotomy and measures to promote expansion of the collapsed areas of the diseased lung Chronic empyema presents one of the most difficult problems in lung surgery X ray examination is essential in the diagnosis and treatment The various operations devised for this condition are thoracoplastic procedures to collapse the chest wall to meet the lung discission and chemical decortication All have a high mortality

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J Frank Doughty M D

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Aisenstein I Hernia in the Linea Semilunaris Spigelii (Zur Frage der Hernien der Linea semilunaris spigelii) *Vrac d lo 1928 u 116*

Hernia in the linea semilunaris Spigelii is favored by the penetration of the line by blood vessels and nerves but for the development of a hernia in this region some precipitating factor is necessary The active causes are increased intra abdominal pressure such as occurs during pregnancy sudden reduction of the intra abdominal pressure and marked development of the subcutaneous fatty tissue with subsequent emaciation According to Lavrentjev the point of greatest pressure in the male is in the inguinal region and the point of greatest pressure in the female is in the femoral region A change in the point of greatest pressure such as results from the carrying of a heavy load may favor hernia

Hernia of the linea semilunaris Spigelii is rare there being only twenty three cases reported in the literature Three of the cases were reported in the Russian literature The author reports the case of a fifty seven year-old man who complained of pain in the right half of the abdomen associated with nausea and vomiting and was admitted to the hospital with a diagnosis of appendicitis On the right side of the abdomen two masses each as large as a walnut were found in the linea semilunaris Spigelii These could be reduced but reappeared when the patient coughed The patient had lost considerable weight from starvation and being obliged to carry heavy loads A diagnosis of double interstitial hernia of the linea semilunaris of Spigelii on the right side was made and confirmed at operation The appendix was normal

The author suggests that the possibility of hernia of the linea semilunaris Spigelii be considered in the diagnosis of appendicitis

SKIJANSKAJA WASSILJEWSKAJA (Z)

Herrmann S F Experimental Peritonitis and Peritoneal Immunity *Arch Surg* 1929 x iii 2202

The author's original purpose was to study the causes of death in peritonitis It soon became apparent however that an understanding must first be gained of the factors by which experimental peritonitis may be produced This study then led to a consideration of the defensive reactions which are associated with recovery after bacterial or fæcal soiling of the peritoneum The experiments performed led to the following conclusions

Peritonitis induced by the reaction of the peritoneum to bacterial infection is a defensive process Its development depends on the presence of immunity The immunity is probably locally increased resistance of the peritoneum rather than a general humoral immunity Such immunity can be built up by intraperitoneal vaccinations Relatively low peritoneal immunity leads to peritonitis while relatively high peritoneal immunity leads to recovery without peritonitis

Streptococci and colon bacilli represent the most significant pathogenic element in fæces Intraperitoneal injections of a vaccine of colon bacilli alone afford a slight degree of protection against subsequent fæcal soiling Intraperitoneal injections of combined vaccine of streptococci and colon bacilli are strikingly effective This protective effect is probably due to the development of specific local peritoneal immunity

Fiddes J and McLean J A Carcinomatosis of the Peritoneum *Med J Australia* 1929 i 491

The authors report four cases of carcinomatosis of the peritoneum The source of the condition was in the ovary in two cases and in the stomach and gall bladder in one case each

The resemblance of peritoneal carcinoma to so called primary endothelioma of the peritoneum is discussed In the authors opinion the term mesothelium rather than endothelium should be used for the lining membrane of the peritoneum, pleura and cerebrospinal spaces as the cells of this membrane differ in their origin and function from the endothelial cells of the vascular and lymphatic systems

The authors believe that primary carcinoma of the peritoneum is very rare and that the great majority of cases reported as such have a primary focus elsewhere

JACOB M MORA M D

Czirer L Cases of Torsion of the Omentum (Facile on Omentumtorsion) *Orvosi hetil* 1928 ii, 1184

The author reports three cases of torsion of the omentum occurring in men forty three fifty-one and thirty years of age The patients came under observation within a period of three months the first two with a diagnosis of appendicitis and the third with a correct diagnosis The painful point was medial to and below McBurney's point in the region of the internal abdominal ring In all three cases there was an inguinal hernia on the right side In the first and third cases the lower edge of the omentum was fixed to the hernial sac In the second case there was torsion of the free omentum the lower half of the omentum was swollen to a tumor like size and the upper half had been thinned down to form a pedicle In the second case a part of the omentum had become incarcerated in an opening in the mesentery In all

three cases a cure resulted after resection of the twisted and dead or dying portion of the omentum

The author believes that the basic cause of omental torsion is a tumor like change due to epiploitis or irregular fat deposits in the omentum The upper part of the omentum becomes drawn out into a long pedicle either by physiological rarefaction or as the result of twisting in a hernia

Torsion is favored by adhesions and incarceration and is precipitated by external or internal forces acting upon the pedunculated tumor such as movements of the body pressure in the reposition of a hernia the emptying or filling of the bowel and strong peristalsis MAKAI (Z)

Vollmar H Jackson s Membrane (Ueber die Jacksonsche Membran) *Arch f klin Chir* 1928 cliii 9

Vollmar discusses membrane like thickenings of the peritoneal coverings on the ascending colon sometimes extending to the cæcum and appendix and occasionally involving the parietal peritoneum as far as the under surface of the liver and the transverse colon Such thickenings cause chiefly chronic disturbances in the lower part of the abdomen on the right side

They may be of inflammatory or congenital origin Those of inflammatory origin have a poor blood supply and are irregular in structure whereas those of congenital origin have a shiny peritoneal surface and are richly supplied with blood vessels uniform in structure and easily movable over the bowel In general these membranes do not cause severe symptoms but occasionally they may be responsible for obstipation Operation is indicated only when there is marked kinking of the intestine with obstruction SCHMIDT (Z)

GASTRO INTESTINAL TRACT

Alvarez W C Ways in Which Emotion Can Affect the Digestive Tract *J Am M Ass* 1929 xcii 1231

Alvarez reports cases in which there were signs of a psychic increase in intestinal tone and activity Much experimental evidence has been gathered to show that emotions can stimulate or inhibit not only peristalsis but also the flow of the salivary pancreatic and gastric juices Normally the sight smell and thought of food prepare the digestive tract for the work it has to do Mental and physical fatigue can interfere with this process

The author describes a syndrome in which most of the sphincters of the body are hypersensitive and hypertonic

It is suggested that patients be warned more frequently against eating when they are absent minded mentally disturbed or greatly fatigued Not infrequently some article of food is blamed for an attack of indigestion when the trouble was due to a large meal taken when the stomach was not ready to receive it

It is suggested that after operations when a return of peristalsis and intestinal tone is desired it would be logical to give the patient a tasty morsel of food preferably meat

Brisset Intravenous Injections of Hypertonic Sodium Chloride Solution in a Case of Acute Dilatation of the Stomach (Injection intraveineuses hypertoniques de chlorure de sodium dans un cas de dilatation aigue de l estomac) *Bull et mém Soc nat de chir* 1929 lv 5

The author reports the case of a woman who on the fourth day after a vaginal hysterectomy had biliary vomiting without stoppage of gas On the next day gas was passed and there was no vomiting On the third day there was biliary vomiting and no passage of gas On the fourth day the patient presented the typical picture of acute dilatation of the stomach Intravenous injections of 10 c cm of a 10 per cent sodium chloride solution were followed by immediate and marked improvement After another injection gas was passed About five hours after each injection there was vulvoperineal herpes PACE

Judd E S Vinson P P and Greenlee D P Retrograde Dilatation of the Œsophagus for Cardiospasm *Surg Gynec & Obst* 1929 xlviii 494

Manual dilatation of the cardia through the stomach has proved successful but with present day methods of treatment is seldom necessary

In the authors experience failure to dilate the œsophagus from above has been due to marked angulation of the lower portion of the organ However cases of marked angulation have been readily treated with the hydrostatic dilator the symptoms being relieved without any attempt at dilatation from below

The silk thread is just as valuable a guide to manual dilatation from below as it is to dilatation from above by means of the hydrostatic dilator

In one case in which there was a recurrence of symptoms following manual dilatation from below the contour of the œsophagus had been altered sufficiently to permit hydrostatic dilatation from above

Steen R E Congenital Pyloric Stenosis *Irish J M Sc* 1929 6s 163

This article is based on twenty cases of congenital pyloric stenosis

The cause of the condition is not known The theory attributing the stenosis to primary hypertrophy of the pyloric muscle advanced by Hirschsprung is perhaps not as logical as the theory attributing it to incoordination between the pyloric sphincter and the muscle of the pylorus advanced by Cameron The pathological change consists essentially of a marked overgrowth of the smooth muscle of the pylorus with frequently some secondary gastritis

Two symptoms of outstanding importance when associated are constipation and vomiting These symptoms were present in eighteen of the author s cases In Steen s experience only four patients ex*hibited these symptoms* in the absence of pyloric stenosis The vomiting is generally of the projectile type As the stomach dilates and the infant becomes weaker it diminishes in frequency and intensity

The most important physical signs of pyloric stenosis are visible gastric peristalsis and a palpable tumor mass Marked peristalsis of the dumb bell variety seen to move across the epigastrium is very suggestive of the condition The author believes that the diagnosis of pyloric stenosis should not be made unless a definite tumor is palpated He outlines his procedure to elicit this sign He has been able to identify the hypertrophied pylorus in all of his cases before operation

The Rammstedt operation has given the best results In only one case has the author used medical treatment The patient should be carefully prepared for operation by supportive measures Feeding may be instituted four hours after the operation Infective diarrhœa is a serious postoperative complication and is not very unusual especially in hospital ward patients One of the author s patients died of this complication and another died before operation while being treated medically EARL GARSIDE M D

Roepke E A Contribution on the Clinical Aspects of Tuberculosis of the Duodenum and Stomach (Beitrag zur Klinik der Tuberkulose des *Zwoelffingerdarmes und des Magens) Beitr kl Chir* 1928 cxliv 453

The author reviews the five clinical cases of tuberculosis of the duodenum which have been reported in the literature to date and reports a case of his own His patient was a woman twenty five years of age who had suffered since childhood from gastric disturbances During the past two years the disturbances had been accompanied by stabbing pain in the right epigastrium vomiting and a sensation of pressure and had been becoming more severe

At operation the stomach was found to be dilated On the anterior surface of the duodenum about 1 cm from the pylorus there was a stellately puckered stenotic area with palpable thickening The surrounding mucosa was a fiery red In the lesser omentum there were numerous enlarged glands Extensive resection was done The wound was treated according to the Reichel Polya method Recovery resulted

The specimen showed a stenotic narrowing and an ulcer the size of a pea *with rigid infiltrated walls* Microscopic examination disclosed tuberculosis with purulent necrotic breaking down of the submucosa and muscularis through to the serosa On the edge of the ulcer there were *several nodules with epithelioid and* giant cells

As each of the reported cases presented a different picture there is nothing on which to base the clinical diagnosis *Tuberculosis of the duodenum* may perhaps be suspected from frequent attacks of diarrhœa alternating with periods of constipation stabbing pains in the epigastrium and rapidly progressive stenosis especially when this syndrome occurs in a young person but because of the rarity of the condition the diagnosis will usually be a mere guess

In the absence of other active foci the treatment is surgical

Gastric tuberculosis comes to operation much more frequently The author reports a case of tuberculoma of the pyloric causing stenosis in which resection was done In this case there was no ulceration of the mucosa DRUECE (Z)

Deaver J B Perforated Peptic Ulcer *Ann Surg* 1929 lxxxix 529

As perforation occurs in 20 per cent of gastric ulcers the danger of such a complication should always be borne in mind

Perforation must sometimes be differentiated from acute pancreatiti In acute pancreatitis vomiting is more frequent and as pointed out by Halsted there are areas of cyanosis in other parts of the body Rigidity is less marked and confined usually to the upper portion of the abdomen

Deaver does not excise the gastric ulcer but sutures the opening without freshening the edges In early cases he performs a gastro enterostomy unless peritonitis is present The presence of peritonitis is determined from smears at the time the abdomen is opened Deaver performs a gastro enterostomy also in cases of duodenal ulcer near the pylorus In cases of duodenal ulcer distant from the pylorus he removes a large part of the anterior half of the pyloric sphincter and closes the perforation Perforations in the posterior wall of the stomach may be reached by incision of the gastrocolic omentum Routes of approach to the posterior wall of the stomach and duodenum are shown in three illustrations

WILLIAM J PICKETT M D

Ivy A C The Etiology of Gastric and Duodenal Ulcer *Nebraska State M J* 1929 xiv 137

Current theories ascribe gastric and duodenal ulcer to the corrosive action of hydrochloric acid pepsin on areas of *mucous membrane with lowered re* i tance specific microorganisms neurotrophic disturbances a nutritional factor and allergy None of these theories has been proved definitely

Acute ulcers may be produced experimentally in animal in a variety of ways All such ulcers heal rapidly Chronicity of an ulcer is favored undoubtedly in some cases by a poor nutritional state and irri*tation from coarse and improper foods* Chronic ulcers can be produced with the X ray The healing of a gastric ulcer is delayed by partial pyloric stenosis

It would seem that the corrosive action of the gastric juice is an important and simple factor preventing the healing of acute ulcers but evidence does not bear out this assumption

Ivy has known duodenal ulcers to follow the ligation of the pancreatic and common bile ducts Such ulcers are of the kissing type Achlorhydria does

not prevent the development of jejunal ulcers in man after gastro-enterostomy Surgeons should exercise great care in the use of clamps instruments etc when handling the intestines or performing anastomoses The findings of the author's study indicate that the lack of neutralization of the acid chyme is not the chief factor in the genesis of gastrojejunal ulcer In the determination of the chronicity of an ulcer both the mechanical factor and the nutritional factor are of importance JOHN W NUZUM M D

Schwarz E The Results of the Operative Treatment of Chronic Gastric and Duodenal Ulcer Results After Gastro Enterostomy and Gastric Resection Particularly by the Method of Reichel Part I Gastro Enterostomy (Ergebnisse der operativen Therapie des chronischen Magen und Duodenalgeschwuers Resultate nach Castroenterostomie und Magenresektion in besonderer der Methode nach Reichel I Teil Die Gastroenterostomie) *Arch f klin Chir* 1928 cli 85

Schwarz reviews the results of 274 gastro enterostomies for gastroduodenal ulcer—208 of the anterior type and 65 of the posterior type In all of the cases the operation was performed more than four years ago

In the cases treated by anterior gastro enterostomy the total mortality was 19 8 per cent and the mortality after subtraction of the deaths from pulmonary complications 11 1 per cent Eight deaths were due to vicious circle and 4 to hæmorrhage

The total mortality of posterior gastro enterostomy was 10 7 per cent Five of the deaths were due to pulmonary complications 1 was due to embolism and 1 was due to heart failure

The late results were unsatisfactory Only about half of the patients were cured It was found that freedom from symptoms for more than a year by no means indicated that the ulcer disease was cured In an entire series of cases recorded as cured ulcer symptoms recurred shortly after the examination The longer the interval after the operation the lower were the figures as regards cure

Gastro-enterostomy gives especially poor results in cases of ulcer distant from the pylorus and cases of duodenal ulcer In 35 8 per cent of such cases the lesion remained unhealed In some of them the gastro enterostomy not only failed to cause improvement but actually made the condition worse

Gastro enterostomy does not protect against gastric hæmorrhage or perforation

Thirteen patients died later of carcinoma of the stomach and in others carcinoma developed at the site of the anastomosis In 8 0 per cent of the cases an ulcer developed at the anastomosis

Jejunal ulcer never healed under conservative treatment For this lesion radical operation is necessary

That gastro enterostomy does not function as internal pharmacy is indicated by the fact that in only a small number of the cases was the gastric acidity considerably lowered after the operation in others it remained unchanged and in still others it was higher after the operation than before

On the basis of these experiences the Rostock Clinic now treats all cases of gastroduodenal ulcer by resection In the last four years not one gastro enterostomy has been performed for this condition Gastro enterostomy comes into consideration only for cases of pyloric cicatrization and non resectable ulcer In cases of florid ulcerous processes gastritis and perigastritis it is forbidden KONJETZNY (Z)

Horwitz A Alvarez W C and Ascanio H The Normal Thickness of the Pyloric Muscle and the Influence on It of Ulcer Gastro Enterostomy and Carcinoma *Ann Surg* 1929 lxxxix 521

In forty seven adults without gastroduodenal disease the pyloric muscle varied in thickness from 3 8 to 8 5 mm and averaged 5 8 ± 0 1 mm The measurements varied with the weight height and age of the subject and with the type of fixation (embalming fluid or Kaiserling solution)

In the absence of obstruction duodenal ulcer seems ordinarily to have little influence on the thickness of the pyloric muscle Occasionally it appears to produce atrophy When obstruction is present hypertrophy sometimes results Gastric ulcer generally causes hypertrophy

Gastro enterostomy tends to produce atrophy of the pyloric muscle Carcinoma in the pars pylorica ordinarily has little effect but occasionally it is associated with hypertrophy of the muscle

These observations lend support to the theory that the prompt relief of pain after gastro enterostomy is due at least in part to the immediate removal of strain and overwork from the muscle in the pyloric region

Konjetzny The Prognosis of Carcinoma of the Stomach on the Basis of the Histological Picture (Histologische Prognostik des Magencarcinoms) *Zent albl f Chir* 1928 p 2853

To determine the relation of the histological picture of cancer of the stomach to the prognosis the end results of gastric resection for carcinoma have been studied to determine whether certain histological forms of gastric carcinoma have a better or more unfavorable prognosis than others and whether this or that histological form recurs in a shorter or longer period of time A decisive result has not been obtained as there is no one nomenclature for all of the varied histological forms of gastric cancer and mixed forms occur the diagnosis of which differs widely according to whether only a single small fragment of tissue or the whole tumor is studied histologically

In general adenocarcinoma is thought to be relatively benign whereas the colloid cancer is thought to be very malignant However Habs has collected the twenty two cases of colloid carcinoma with survival for longer than five years It may be stated in general that there is little prospect of being able to determine with certainty the greater or lesser malignancy

of a given gastric carcinoma from the histological picture alone The macroscopic behavior of the tu mor is a su er criterion

With von Mikulicz the author differentiates the broad based sharply delimited forms from those tending to infiltrate the stomach wall and forms in termediate between these two extremes Mush roomed and other fungating types occur as a rule on the greater curvature and the anterior and posterior walls of the stomach while infiltrating tumors are found most frequently near the pylorus or on the lesser curvature Konjetzny ascribes these modes of growth to the special distribution the variation in the number and the different functions of the lymph vessels in the walls of the stomach

According to Anschuetz the prognosis for cure is best in cases of fungating carcinoma of the greater curvature Carcinoma fibrosum occupies a special position as a form of scirrhous carcinoma The stro ma reaction in malignant tumors is the morpholog ical expression of complicated biological processes which are to be considered as defense reaction

WANKE (Z)

Anschuetz The Outlook as Regards Palliative Resection of Gastric Carcinoma (Aussichten der palliativen Resektion des Magencarcinoma) *Zentralbl f Chir* 1928 p 2827

The author discusses the results of palliative resection in advanced and unfavorable cases of gastric cancer He divides the cases into the follow ing three groups Group 1 cases of movable carcinoma which is easily resected with the glands Group 2 cases of carcinoma adherent to neighboring tissues and Group 3 cases of carcinoma with metastases in the peritoneum or liver or residues of the tumor left behind at operation

The frequency with which resection has been done in his cases has increased from 12 per cent in the period from 1901 to 1907 to 30 per cent in the period from 1918 to 1927 The mortality is 30 per cent

In carcinoma of the pylorus resection is done when possible instead of gastro enterostomy as the mortality of the former is no greater than that of the latter (31 per cent) and the patient is more comfortable and lives longer after resection than after gastro enterostomy After gastro enterostomy only 1 per cent of the patients survive one year whereas after resection 29 per cent survive two years or longer

During the first year the results in Group 1 were much better than those in the other groups but in the third year the results in all three groups were similar In the fifth year 19 per cent of the patients in Group 1 16 per cent of those in Group 2 and 13 per cent of those in Group 3 were still living In the tenth year 11 per cent of those of Group 1 16 per cent of those in Group 2 and 12 per cent of those in Group 3 were still alive In Group 3 no patient survived longer than eleven years but in Group 1 one patient lived for seventeen and one half years

The best end results were obtained in the cases of adherent carcinoma The majority of such carcinomata involved the corpus Therefore in cases of very adherent carcinoma a radical opera tion should be performed

The poorest results were obtained in the cases of apparently favorable small carcinoma at the pylorus

VORSCHUTZ (Z)

Miller R H Surgical Procedures on the Stomach and Duodenum Indications and Results *New England J Med* 1929 cc 575

Clute H M The Selection and Management of Patients for Gastric Surgery *New England J Med* 1929 cc 585

MILLER states that the factor which must be given most consideration in peptic ulcer is a dis turbance of balance between the acid gastric secre tion and the alkaline duodenal contents In the treatment of such ulcers proper alkalinization of the stomach contents is essential In every case a course of medical treatment should be given Surgery is indicated in cases not responding to medical treat ment

For simple duodenal ulcer gastro-enterostomy is the best operation yielding good results in from 85 to 90 per cent of cases It should be performed only in the presence of a demonstrable lesion

For gastric ulcer Miller advises excision The type and extent of the operation must be governed by the requirements of the particular case

Miller gives the incidence of jejunal or gastro-jejunal ulcer the most common sequela of gastric operations as 2 per cent This lesion is due to im proper alkalinization of the acid gastric contents The only treatment for jejunal ulcer is operation If the original ulcer has healed the gastro-enteros tomy may be undone If the original ulcer has not healed radical resection with closure by the Polya method will be necessary

CLUTE reports that 70 per cent of his cases of uncomplicated gastric and duodenal ulcers are re lieved by medical management alone He therefore believes that medical management should be given in every case before surgery is advised

Surgery is definitely indicated in cases with re peated massive hæmorrhage cases with acute per foration cases with chronic obstruction cases in which carcinoma is suspected and cases in which medical management has failed to give results

Clute is very conservative as regards operation in ca es with hæmorrhage resorting to surgery only in those in which medical measures have failed

In cases of perforation Clute limits surgical in tervention to the least extensive procedure that will relieve the acute crisis and save the patient s life He believes that the procedure of choice is simple closure of the ulcer If closure tends to produce duodenal obstruction he adds gastro-enterostomy

In discussing the treatment of obstruction Clute reviews the various possible causes and the different sites at which obstruction may occur He states

that in his experience short-circuiting operations have been of the greatest benefit in cases with definite organic obstruction in the stomach or duodenum

In the treatment of malignancy Clute is more radical However he does not believe that every gastric ulcer should be resected simply because of the possibility of later malignant degeneration In all cases in which malignancy is suspected he gives medical treatment for at least ten days to confirm the diagnosis If at the end of that time blood is still found in the stools the X ray defect shows inadequate improvement or the distress persists he performs a radical operation

HERMAN O MCPHEETERS M D

Burgess A H Acute Intestinal Obstruction *Lancet* 1929 ccxvi 857

The present century has shown great improvement in the surgical treatment of abdominal crises but the mortality of acute intestinal obstruction still remains high Souttar has collected the statistics on acute intestinal obstruction for the five years from 1920 to 1924 of seven large hospitals including Guy s St Thomas s and St Bartholomew s in London When all cases of intestinal obstruction due to strangulated hernia and intussusception are excluded there were 1 042 cases with 395 deaths a mortality of 37 9 per cent The high mortality is due to delay of surgical treatment The early diagnosis of acute intestinal obstruction has not kept pace with the improvements in diagnosis in other surgical conditions The early symptoms have been too little emphasized while the late signs and symptoms have been overemphasized

Primary acute obstruction always leads to dilatation with thinning of the bowel wall and is not associated with visible peristalsis Even when peristalsis is not visible it may be palpated if the hand is kept flat on the abdomen Fæces may be arrested for days or even weeks but no patient can long survive an obstruction to the blood supply of the bowel In general the higher the obstruction the more acute the onset In secondary obstruction it is often possible to see the outlines of distended coils of intestine with visible peristalsis passing along them In acute obstruction the pain is always referred to the epigastric region and is rarely of any localizing value Paroxysmal at first *it soon becomes continuous as the obstruction* becomes complete The vomiting which is at first reflex later becomes continuous as the result of mechanical obstruction True fæcal vomiting never occurs except in cases of gastrocolic fistula Cessation of the passage of fæces and flatus is an important and often decisive sign Rectal examination is of the greatest importance In higher lying obstructions the sigmoidoscope often yields information of great value Obstruction occurs in the large bowel slightly more frequently than in the small bowel Ninety-one per cent of the obstructions in the large bowel are due to cancer In the small intestine the chances are 300 to 1 that an obstruction is not malignant

The treatment of intestinal obstruction is surgical Gastric lavage should precede and follow the operation Large amounts of hypertonic saline solution should be given subcutaneously or intravenously to replace the loss of fluids and chloride from the blood Spinal anæsthesia is the anæsthesia of choice In early obstruction an exploratory laparatomy is indicated In late cases of colon obstruction it is often possible to do only a blind cæcostomy This should be done under local anæsthesia through a gridiron incision in the right iliac region to tide the patient over the crisis The danger of blind cæcostomy lies in the possibility of overlooking a strangulation which later may lead to perforation and fatal peritonitis However the mortality is about 1 5 per cent and this is lower than that of exploratory operation performed on patients who are poor risks

JOHN W NUZUM M D

Oughterson A W The Relationship of the Toxin of Bacillus Welchii to the Toxæmia of Intestinal Obstruction *Arch Surg* 1929 xviii 2019

The author describes four methods of detecting bacillus welchii toxin The hypothesis that bacillus welchii toxin is the lethal agent in the toxæmia of intestinal obstruction was not supported by the findings of his investigations

CARL R STEINKE M D

Gosset Intravenous Injections of Hypertonic Salt Solution in Intestinal Occlusion (Injections intraveineuses de serum sale hypertonique dans l occlusion intestinale) *Bull et mém Soc nat de chir* 1929 lv 2

The author recommends intravenous injections of hypertonic salt solution in intestinal occlusion He reports three cases which were treated by such injections by Pilven In the first case that of a woman forty-eight years of age there had been no passage of fæces or gas for eight days and vomiting of fæcaloid material had occurred for two days At operation the pulse became impalpable An assistant gave the patient an intravenous injection of 20 per cent salt solution and the operation was completed The appearance of the patient changed within five minutes after the injection While the wound was *being dressed* the pulse became almost strong and very regular and the face regained its color Four more injections given at intervals of four hours cause further improvement

In the second case the patient was operated upon after obstruction had been present for nearly two months and occlusion had been present for five days As soon as the patient had been returned to his bed after the operation he was given intravenous injections of 20 per cent salt solution every four hours for two days Recovery was uneventful and complete

The third case was that of a woman with a strangulated hernia After operation several injections of 200 c cm of 20 per cent salt solution were given Recovery was uneventful

PAGE

of a given gastric carcinoma from the histological picture alone The macroscopic behavior of the tumor is a surer criterion

With von Mikulicz the author differentiates the broad based sharply delimited forms from those tending to infiltrate the stomach wall and forms intermediate between these two extremes Mushroomed and other fungating types occur as a rule on the greater curvature and the anterior and posterior walls of the stomach while infiltrating tumors are found most frequently near the pylorus or on the lesser curvature Konjetzny ascribes these modes of growth to the special distribution the variation in the number and the different functions of the lymph vessels in the walls of the stomach

According to Anschuetz the prognosis for cure is best in cases of fungating carcinoma of the greater curvature Carcinoma fibrosum occupies a special position as a form of scirrhous carcinoma The stroma reaction in malignant tumors is the morphological expression of complicated biological processes which are to be considered as defense reaction

WANKE (Z)

Anschuetz **The Outlook as Regards Palliative Resection of Gastric Carcinoma** (Aussichten der palliativen Resektion des Magencarcinoma) *Zentralbl f Chir* 1928 p 2827

The author discusses the results of palliative resection in advanced and unfavorable cases of gastric cancer He divides the cases into the following three groups Group 1, cases of movable carcinoma which is easily resected with the glands Group 2 cases of carcinoma adherent to neighboring tissues and Group 3 cases of carcinoma with metastases in the peritoneum or liver or residues of the tumor left behind at operation

The frequency with which resection has been done in his cases has increased from 12 per cent in the period from 1901 to 1907 to 30 per cent in the period from 1918 to 1927 The mortality is 30 per cent

In carcinoma of the pylorus resection is done when possible instead of gastro enterostomy as the mortality of the former is no greater than that of the latter (31 per cent) and the patient is more comfortable and lives longer after resection than after gastro enterostomy After gastro enterostomy only 1 per cent of the patients survive one year whereas after resection 29 per cent survive two years or longer

During the first year the results in Group 1 were much better than those in the other groups but in the third year the results in all three groups were similar In the fifth year 19 per cent of the patients in Group 1 16 per cent of those in Group 2 and 13 per cent of those in Group 3 were still living In the tenth year 11 per cent of those of Group 1 16 per cent of those in Group 2 and 12 per cent of those in Group 3 were still alive In Group 3 no patient survived longer than eleven years but in Group 1 one patient lived for seventeen and one half years

The best end results were obtained in the cases of adherent carcinoma The majority of such carcinomata involved the corpus Therefore in cases of very adherent carcinoma a radical operation should be performed

The poorest results were obtained in the cases of apparently favorable small carcinoma at the pylorus

VORSCHUETZ (Z)

Miller R H Surgical Procedures on the Stomach and Duodenum Indications and Results. *New England J Med* 1929 cc 575

Clute H M The Selection and Management of Patients for Gastric Surgery *New England J Med* 1929 cc 5 0

MILLER states that the factor which must be given most consideration in peptic ulcer is a disturbance of balance between the acid gastric secretion and the alkaline duodenal contents In the treatment of such ulcers proper alkalinization of the stomach contents is essential In every case a course of medical treatment should be given Surgery is indicated in cases not responding to medical treatment

For simple duodenal ulcer gastro-enterostomy is the best operation yielding good results in from 85 to 90 per cent of cases It should be performed only in the presence of a demonstrable lesion

For gastric ulcer Miller advises excision The type and extent of the operation must be governed by the requirements of the particular case

Miller gives the incidence of jejunal or gastrojejunal ulcer the most common sequela of gastric operations as 2 per cent This lesion is due to improper alkalinization of the acid gastric contents The only treatment for jejunal ulcer is operation If the original ulcer has healed the gastro-enterostomy may be undone If the original ulcer has not healed radical resection with closure by the Polya method will be necessary

CLUTE reports that 70 per cent of his cases of uncomplicated gastric and duodenal ulcers are relieved by medical management alone He therefore believes that medical management should be given in every case before surgery is advised

Surgery is definitely indicated in cases with repeated massive hæmorrhage cases with acute perforation cases with chronic obstruction cases in which carcinoma is suspected and cases in which medical management has failed to give results

Clute is very conservative as regards operation in cases with hæmorrhage resorting to surgery only in those in which medical measures have failed

In cases of perforation Clute limits surgical intervention to the least extensive procedure that will relieve the acute crisis and save the patient's life He believes that the procedure of choice is simple closure of the ulcer If closure tends to produce duodenal obstruction he adds gastro-enterostomy

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to ulcer stasis and duodenal pouches and diverticulitis

In enteroptosis the mere position of the hollow viscera gives very little information with regard to the presence of abdominal disease as considerable ptosis may be present in healthy persons

Horder obtains less help from the X ray in the diagnosis of conditions of the appendix than in the diagnosis of lesions elsewhere in the alimentary tract

In the diagnosis of colonic conditions the roentgen findings are often decisive In diverticulosis of the colon the barium enema is of great aid

BARCLAY states that surgery and roentgenology must progress together Today the consultant will not hazard a diagnosis of gastralgia or nervous dyspepsia without first examining the roentgenogram of the stomach

It is of the greatest importance that the X ray departments of hospitals be directed by well trained roentgenologists Correct diagnosis requires a comprehensive knowledge of the pathological conditions which give rise to the various findings in the roentgenogram The X ray has shown that the living alimentary tract is entirely different from the alimentary tract revealed in the dissecting room The opaque meal has made it clear that the tone of organs is closely associated with the general health

Before the discovery of the X ray knowledge regarding lesions of the œsophagus was obtained chiefly from autopsies Today we are able to study œsophageal conditions during life to such purpose that autopsy adds very little to our information

In cases of gastric lesions the opaque meal indicates the condition present most accurately Few ulcers escape detection when the examination is carried out skillfully In the case of the duodenum a definite diagnosis of ulcer is warranted only when the crater of the ulcer can be demonstrated Demonstration of the crater may require persistent manipulation and palpation with the patient in the upright and the supine position and the taking of numerous roentgenograms According to Carman 90 per cent of duodenal ulcers occur in the first part of the duodenum

The X ray examination should be made by a roentgenologist with a wide clinical experience in medicine including pathology who is able to operate the most efficient apparatus and has the time and the patience to examine thoroughly and re examine

WALTON states that the public are beginning to regard an X ray examination carried out even by an untrained examiner as a valuable means of diagnosis It is therefore important that the surgeon should be well acquainted with the work of the roentgenologist who sends him a report The X ray findings should be regarded as only a part of the evidence upon which the diagnosis is to be based The surgeon should provide the roentgenologist with a detailed account of his clinical findings and the roentgenologist should report to the surgeon both the direct and the indirect evidence revealed by the X ray

Walton has always maintained that in about 90 per cent of cases of chronic gastric ulcer a positive diagnosis can be made on the basis of the history At operation he has found the X ray diagnosis correct in slightly more than 90 per cent of the cases By the combined use of both methods of examination a pre-operative diagnosis should be possible in some of the remaining 10 per cent

Attention is called to a variety of ptosis in young women which suggests gastric or duodenal ulcer In such cases X ray examination is of great value The symptoms may be due to a chronic ulcer gastric erosions or the effects of the visceroptosis

In the middle aged man gastritis often gives the clinical picture of carcinoma In a case cited by the author X ray examination failed to show any evidence of carcinoma The patient improved and gained weight under medical treatment with rest but nine months later returned with an inoperable cancer and liver metastases Therefore if the patient has an atypical history of cancer and is not entirely cured of his symptoms after a fortnight of medical treatment Walton advises laparotomy even though the X ray report is negative

Penetrating ulcers of the stomach often produce the most striking roentgen pictures Carcinoma of the stomach is usually accompanied by very definite roentgen evidence but malignant degeneration of an ulcer is difficult to determine Tuberculosis of the lungs often produces dyspeptic symptoms which may be mistaken for those of ulcer

Progress in the diagnosis of gastric lesions by means of X ray has advanced so rapidly in the past ten years that with the exception of the doubtful ulcers in visceroptotic young women and the doubtful carcinomata in patients with gastritis there is no branch of surgery in which diagnosis is so accurate and complete

In cases of ulcer and diverticula of the duodenum the X ray findings as a rule confirm the clinical diagnosis Gastrojejunal ulcers are frequently of the superficial type which bleed profusely and may give only vague X ray evidence Obstruction at the duodenojejunal flexure is often revealed in the roentgenogram

In conclusion Walton says that the value of the opaque meal depends upon the skill of the observer and that for the best results in X ray diagnosis there must be close cooperation between the clinician and roentgenologist JOHN W NUZUM M D

Arntzen L and Helsted A Reduction under the Fluoroscope of Acute Intussusception in Children *Acta radiol* 1928 ix 597

When acute intussusception is suspected in the case of a child the authors give an opaque enema and if an intussusception is demonstrated in the colon they attempt to reduce it under fluoroscopic control

The article contains roentgenograms showing the intestine before during and after disinvagination in the cases of two children seven months and twelve years of age respectively

Brill S The Mortality of Intestinal Obstruction *Ann Surg 1929 lxxxix 341*

The author reviews a series of 124 cases of intestinal obstruction treated by *operation with a gross* mortality of 36 3 per cent In the chronic cases with no toxæmia the mortality was 19 per cent whereas in the acute cases especially those of postoperative ileus it was as high as 80 2 per cent

The author has divided the cases into four groups (1) those of obstructed hernia (2) those due to bands *and adhesions (3) those due to malignancy* and (4) those due to miscellaneous cause

In the first group the mortality was 11 per cent and seemed to depend upon the speed with which operation was done after the occurrence of strangulation In the second group in which the condition requiring operation was not discovered until the patient was in a serious condition the mortality was 42 per cent In the third group the deaths seemed to follow the onset of peritonitis When *enterostomy was required* the mortality rate was especially high probably because of delay of surgery

In a group of cases of postoperative ileus the mortality was 80 per cent It is difficult to separate the case of true paralytic ileus from the case of dynamic obstruction due to adhesions or bands formed at the site of a ruptured appendix or other lesion *In the paralytic* case the value of enterostomy seems rather dubious as the patient is suffering as much from the absorption of toxic elements from the peritoneum as from absorption from the lumen of the bowel

The use of normal and hypertonic salt solution seems advisable to replace the diminished chlorides in the blood and to combat dehydration *However* as the author has seen no marked blood changes in cases of low intestinal obstruction he believes that the salt solution may be of benefit only as a fluid

WILLIAM J PICKETT M D

Domenech F The Influence of Spinal Anæsthesia on Intestinal Motility *(Action de l'anesthésie rachidienne sur la motilité intestinale) Presse méd* Par 1929 xxxvii 86

The technique used in the experiments reported was described in detail in an article in *Revista medica de Barcelona* for February and March 1927

Spinal anæsthesia gives rise to a considerable and almost immediate increase of intestinal peristalsis The intestinal contractions become more frequent *and more intense and the effect* persists sometimes for an hour resulting in an abundant evacuation of fæces from the upper portion of the intestine The injection of atropin sulphate not only inhibits the hypermotility produced by spinal anæsthesia but brings about paralysis of the intestine The paralyzing action of chloroform on contractions exaggerated by *spinal anæsthesia is proportionate* to the depth of the narcosis When the tension of the chloroform on the blood diminishes the contractions recur the effect of the spinal anæsthesia continuing

The effect of spinal anæsthesia is due to a temporary chemical block of the *preganglionic splanchnic* fibers Because of the absence of the inhibitory action of the splanchnics on intestinal motility (the sympathetic vagus equilibrium being disturbed by *the non-compensated action of the pneumogastric*) the intestine contracts intensely The author's experimental work *is reported as a demonstration of* this explanation

The action of spinal anæsthesia on the motility of the intestine persists even when the serous membrane is intensely inflamed The author agrees with Wagner that through stimulation of the terminations of the splanchnics and a spinal reflex inflam*mation of the peritoneum causes loss of the vagus* sympathetic equilibrium The action of the splanchnics then becomes predominant and the characteristic inhibition of motility is produced When the action of the splanchnics is suppressed by the effect of spinal anæsthesia the intestine with an intensely inflamed serous membrane acts like the normal *intestine The record of intestinal motility in a dog* anæsthetized by the intravenous injection of chloral morphine or chloralose showed intestinal contractions which while not very intense were continuous No contraction was observed when the dog was anæsthetized with chloroform It is general anæsthesia induced by inhalation that paralyzes the intestinal *motility Inquiry into the effect of chloroform* anæsthesia on the intestine in a state of hypermotility under the action of spinal anæsthesia and the similarity of the effect to that of atropin sulphate leads to the supposition that intestinal paralysis from chloroform is due to a paralyzing action on the pneumogastric

Intestinal hypermotility depends on the anæsthesia of splanchnic preganglionic filaments but spinal *anæsthesia does not always cause anæsthesia of* these filaments The planchnic takes its origin at a relatively high level of the cord this fact explaining how in low anæsthesia the action exciting *motility* is lacking since the anæsthetic does not come in *contact with all of the splanchnic preganglionic* filaments PACE

Horder Sir T Barclay A E and Walton A J The Value of the Opaque Meal in the Diagnosis *of Diseases of the Intestinal Tract* *Brit J Rad ol* 1929 i 97

HORDER states that the most marked advances in radiological diagnosis have been made in diseases of the alimentary tract The chief difficulties in interpretation are met in *the same field* because of the fact that the parts of the digestive tract vary greatly within *the limits of health There* are many pitfalls both in technique and interpreta*tion The further roentgenology* and clinical medicine become divorced the worse for the patient The art of diagnosis depends upon the ability to distinguish between essential and non-essential data

In investigation of the stomach the opaque meal yields *the most valuable information* in cases of peptic ulcer and neoplastic diseases In the duodenum it yields valuable information with regard

to 3 ft above the ileocolic juncture Meckel s diverticulum is a persistent remnant of the yolk stalk The diverticulum itself may be congenital or acquired The acquired diverticulum is the result of weakness of the intestinal wall and usually occurs along the line of the mesenteric attachment In the complete type all layers of the intestinal wall are found in the diverticulum whereas in the incomplete type the wall is made up of mucosa submucosa and serosa and there is a herniation of these structures through the muscularis

The duct rarely has its own mesentery Its diameter is about the same as that of the lumen of the ileum Its attachment is usually opposite the mesentery

The onset of acute inflammation of Meckel s diverticulum is sudden The pain is colicky in nature Vomiting is persistent and occurs early It is probably due to partial obstruction of the small bowel The pain is localized near or about the umbilicus The distention of the abdomen is out of proportion to the pain and tenderness Early surgical removal of the diverticulum results in cure

The authors report four cases in detail In the fourth case it was possible to make a pre-operative diagnosis WILLIAM J PICKETT M D

Case J T The Roentgen Study of Colonic Diverticula *Am J Roentgenol* 1929 xvi 207

Case states that the term diverticulosis should be used only to indicate the presence of diverticula without symptoms Diverticulitis is a frequent sequel to diverticulosis Diverticulitis has been divided by Case into the following types (1) enterospastic type (2) hyperplastic type and (3) pseudo appendicitis type

The enterospastic type includes the cases in which the diverticula are scattered The retained contents of the sacs keep up a continued irritation and spasm with the symptoms of chronic colitis

Cases of the hyperplastic type are those in which the diverticula are closely grouped usually in the pelvic colon Because of their close grouping diverticulitis and the consequent peridiverticulitis produce enough connective tissue to thicken the wall of the bowel Obstruction results with the clinical picture of chronic obstruction The appearance disappearance and re appearance after a few days of a mass is one of the most reliable signs

In cases of the pseudo appendicitis type one or more of the diverticula undergoes an acute inflammatory process analogous to that occurring in acute appendicitis The symptoms are those of an acute left sided appendicitis in a patient with a long standing history of diverticulitis of the enterospastic type

Case describes at length the technique of the roentgen examination He gives an opaque meal and watches its progress through the colon The condition may be suspected from lack of haustra formation and the formation of rounded shotlike residues that maintain the same relationship to each other and to the colon The latter (barium filled sacs) are best seen on the second and third days If an enema is to be given it should be given at this time If the enema alone is employed it should be retained half an hour and the patient re examined after its expulsion Re examination after belladonna to the maximum physiological effect is often helpful

In addition to the detection of the diverticula themselves the roentgenologist should look for a constant serrated saw toothed appearance in the left colon This is the pre diverticular stage described by George and Leonard and by Spriggs and Marxer During this stage minute herniæ which subsequently form diverticula are pushing between the muscle fibers

Case contributes a third and new method for the detection of these diverticula by the roentgen ray The thick walled colon will displace the terminal portion of the small bowel By filling the former with air and the latter with barium the degree of displacement becomes very evident and the intervening vacant space represents the mass made up of the fat laden enlarged epiploic appendages attached to the thickened wall of the colon

Localized narrowing suggests carcinoma rather than diverticulitis but the conditions simulate each other and sometimes co exist They can be differentiated best by roentgen study No case of supposed carcinoma of the lower bowel should be regarded as inoperable either before or during laparotomy until the question of diverticulitis has been considered and if possible settled CHARLES H HEACOCK M D

Lockhart Mummery J P The Treatment of Acute Diverticulitis *Brit M J* 1929 i 588

Diverticulitis was diagnosed by the older generation of surgeons as iliac abcess or pericolitis sinistra It is now a fairly well recognized condition known to be accountable for a considerable number of deaths and a still larger number of cases of chronic invalidism

The syndrome is fairly characteristic The patient is usually over forty five years of age and rather stout When the diverticulum involves the pelvic colon the most common site of the lesion the chief symptoms are pain the lower part of the abdomen tenderness in the left iliac fossa an increased temperature and mild rigors The pain is distressing but not acute The tenderness is frequently localized to a certain spot in the lower left side of the abdomen Vomiting is rare Often a definite resistance or tumor may be felt in the pelvis on the left side The condition may or may not cause constipation A mild diarrhœa may result from the irritation of the colon If the bladder is adherent to the diseased colon frequent micturition occurs A dose of castor oil may precipitate a rupture

Acute symptoms commonly arise from acute inflammation of the diverticulum just beneath the peritoneum The inflamed area becomes adherent to adjacent structures such as the intestines bladder tubes ovaries or abdominal wall Rarely the first sign is a direct perforation into the general abdom

Stern B Diverticulum of the Duodenum (Vom Divertikel des Duodenums) *Vestnik Rentgenol* 1928 vi 123

The author describes the so-called true diverticulum The exact cause is not known As a rule such diverticula occur on the inner surface of the descending portion of the duodenum chiefly in the vicinity of the papilla of Vater Much more rarely they occur in the higher horizontal portion They may cause the most varied symptoms which may be ascribed to other nearby organs The symptoms are not suggestive of the condition itself In the roentgenogram the diverticulum appears as a paraduodenal shadow The shadow is sometimes pedunculated but is always connected with the duodenum The condition must be differentiated from traction diverticula resulting from inflammatory processes A true diverticulum is freely movable while the traction form is not There are no signs of periduodenitis and no tenderness The diverticulum is distinguished from a niche by the clinical history and by its location

The author reports six cases of diverticula on either the descending portion or the upper horizontal portion of the duodenum One case was of particular interest because the diverticulum measured 2 5 by 3 cm was located on the outer surface of the descending part of the duodenum and occurred in a male twenty years old an unusual age for the condition The treatment in all cases was purely dietetic

Surgical removal is of course desirable but it is not always easy to find the diverticulum at operation Operation is imperative only when perforation is imminent HOLST (Z)

Coley B L Strangulated Left Duodenal Hernia *Report of a Case with Recovery* *Arch Surg* 1929 xviii 868

The author has collected fifty authentic cases of left paraduodenal hernia from the literature and reports a case of his own He reviews the literature on retroperitoneal hernia from Moynihan's monograph in 1897 to the report of Andrews in 1923

Coley states that retroduodenal hernia may be diagnosed before operation in the cases of patients giving a history of recurrent attacks of incomplete intestinal obstruction and presenting a large palpable mass to the left of the umbilicus providing there has been no previous operation and the general condition does not seem to indicate a malignant condition He believes that retroperitoneal hernia is relatively rare Its most common variety is hernia into the paraduodenal fossa The mortality after operation is decreasing because of earlier intervention and more efficient postoperative care

LOUIS P GAMBEE M D

Boppe Duodenojejunostomy (La duodéno-jéjunostomie) *J de chir* 1929 xxxiii 20

Duodenojejunostomy is applicable only in low infravaterian stenoses In these the anastomosis must be made as near as possible to the obstruction in order to prevent duodenal stagnation Nearly always the stenosis is arteriomesenteric at the mesenteric pedicle and an inframesocolic duodenojejunostomy should be performed immediately to the right of the mesentery In some cases however the obstruction is at the duodenojejunal angle and an inframesocolic duodenojejunostomy should be done to the left of the mesentery

Many surgeons have performed a duodenojejunostomy after mobilizing and exteriorizing the duodenum but the author avoids the difficulties of which they complain by mobilizing the duodenum through an incision in the peritoneum on the dilated infracolic loop The duodenum can be compressed by the fingers of the assistant against the right side of the lumbar column

In chronic duodenal stenoses from arteriomesenteric compression by far the most frequent duodenojejunostomy is undoubtedly the operation of choice Gastroenterostomy is dangerous Before operation a systematic roentgenological examination of the duodenum should be made and in the course of the operation careful exploration of the inframesocolic duodenum should be done especially in cases in which examination of the stomach remains negative The indication for operation is based on the intensity of organic and functional disturbances (loss of weight and vomiting) and especially the findings of the roentgen examination (dilatation of the duodenum antiperistaltic movements persistent barium stasis) In neuropathic lordotic women with a flaccid abdominal wall and those with ptosis the duodenal stenosis is only a part of a complex pathological condition (chronic constipation gastric colonic and renal ptosis) Operation on such subject leads to only temporary improvement In acute arteriomesenteric stenoses very rare and very serious operation should be performed very speedily after the failure of the usual therapy (gastric lavage and the ventral position) In duodenal stenoses associated with gastric or duodenal ulcer it is perhaps imprudent to perform duodenojejunostomy alone As experience is limited in this field it is better to supplement the duodenojejunostomy with a gastro-enterostomy

In stenoses from periduodenitis (single or multiple band) the operation should be as simple as possible —resection of the band and lowering of the duodenojejunal angle In the adult who quite frequently is suffering from a true inframesocolic plastic peritonitis duodenojejunostomy is preferable PAGE.

Wolfson W L and Kaufman B Acute Inflammation of Meckel's Diverticulum *Ann Surg* 1929 lxxxix 535

Meckel's diverticulum is an occasional sacculation of the ileum found most commonly in males At the seventh week of fetal development the midgut becomes completely closed off from the umbilical vesicle through atrophy of the connecting yolk stalk. The point of final closure is found from 2 in

There are two serious objections to the extra peritoneal method The first is that the suture of the intestine must be performed in more or less sclerotic tissue whereas for successful intestinal suture it is essential to operate in perfectly normal and supple tissue The second objection is that the colon is left adherent to the wall of the abdomen whereas a cardinal principle of surgical procedure is the liberation and prevention of adhesions

Duval makes a circular incision around the artificial anus frees the anus and brings it outside the wall of the abdomen He then examines it minutely and removes all fat and cicatricial tissue The resulting opening is sometimes enormous but is closed by simple transverse suture in three layers—mucous sermuscular and serous The loop is then put back in the abdomen the great omentum is lowered over it and the wall is closed in three layers without drainage At first Duval used a small drain but he found it unnecessary If the patient was thoroughly purged before the operation a movement of the bowels is not induced until about the ninth day At the end of that time a little castor oil is given The first movement is generally painful because the lower end of the intestine has contracted somewhat as the result of disuse

Closure has been done after from twenty days to fifteen months following the formation of the anus It is determined not by the length of time but by the condition of the intestine The only case with a complication was one in which the operation was done too soon because the patient was greatly disturbed by the artificial anus In this instance there was still a small area of granulations and a peritoneal reaction necessitated the formation of a fistula in a loop of dilated small intestine Recovery resulted

In Duval's opinion the intraperitoneal operation is not so dangerous as it is generally believed to be It is still blamed for poor results in an earlier period when the surgical technique was less well developed

In the discussion of this report BASSET cited a case in which intraperitoneal closure was followed by primary healing

LENORMANT said that he prefers the extra peritoneal operation for cæcal fistula and anus He regards the intraperitoneal operation as more dangerous and believes that when it is performed by surgeons less skilled than Duval it would not give such uniformly good results

AUDREY G MORGAN M D

Loehr and Rassfeld Appendicitis from the Standpoint of Modern Bacteriological Studies (Ueber Appendicitis unter dem Gesichtspunkte neuerer Bakteriologischer Forschungen) *Zentralbl f Chir* 1928 p 281

Two normal appendices and forty eight appendices with gangrenous appendicitis were studied with modern bacteriological and anaerobic methods The bacteriological findings were practically the same in all instances Fraenkel's gas bacillus was found in nearly every case usually in association with one or two other anaerobes Bacillus bifermentans (Tenuis Zeissler) was present in about one third of the cases and in combination with the gas bacillus produced the most severe mixed infection The bacillus of malignant œdema of Noochi was found once and the para anthrax bacillus twice Colon bacillus anaerobes were nearly always present and various cocci especially the enterococcus and lactic acid streptococcus were present in about half of the cases The staphylococcus aerogenes of Schottmueller was occasionally found A diphtheria like bacillus was present in about three fourths of the cases The same flora was present in the normal appendices Anaerobic flora were absent in only four instances Streptococcus putridus was never found

Mechanical transportation is considered by the authors as an important factor increasing the bacilli and the toxins in the intestinal contents The anaerobes and their toxins may be a factor in the formation of ordinary or hæmorrhagic exudate in the abdominal cavity Simple infection does not result in necrosis or gaseous destruction of the viscera Experimentally such an effect could be obtained only with the strongest toxins acting under pressure and then only locally at the sites of greatest pressure The gaseous destruction did not extend to the adjoining part of the intestine Kinking of the appendix with retention of fæces favors an increase of anaerobic bacilli with resulting inflammation and the accumulation of strong toxins under pressure which lead to necrosis Roentgenological examination of the phlegmonous appendices showed in the distal portion or proximal to the inflammation a kinking with thickening of the fæces or the formation of fæcoliths and distal to that a bottle shaped thickening of the appendix It appears that in the development of gangrene of the appendix the kinking and inspissation or impaction of fæces act like a cork in a bottle The appendix attempts to empty itself and in so doing places the bacteria and toxins under increased pressure thus favoring necrosis It is surprising that the physiological kinking of the appendix persists even after the removal of the appendix from the abdomen This permanent kinking is attributed to the hard fecal masses of various shapes which can be seen with the X ray

Appendicitis is therefore a local disease due to local bacteria which under favorable mechanical conditions grow abnormally and produce toxins Gangrene may occur in a very short time The anaerobic flora are especially important because of their strong toxins For the peritonitis due to perforation the authors recommend serotherapy with Weinberg's mixed serum with perhaps the addition of bacillus coli serum HEMPEL (Z)

Devine H B Difficult Appendicectomy *J College Surg Australasia* 1929 2 375

Difficulty in appendicectomy may be due to the stage of the inflammatory process such as that in which the appendix is in the wall of an abscess In cases of this type a knowledge of the relative strength

inal cavity with resulting peritonitis either local ized or general The diverticulum may rupture into the bladder with resultant cystitis and the passage of flatus and fæcal material through the urethra

The cause of diverticula of the colon is not known In some cases the mouth of the sac becomes obstruct ed so that drainage back into the bowel becomes impossible Acute inflammation of the sac and con tiguous bowel wall ensues and perforation may occur with general peritonitis Again the diverticulum may reach a considerable size without any signs of inflammation The lesions may be single or multiple

The treatment often becomes surgical If perfora tion with general peritonitis has occurred drainage of the abdomen and colostomy well above the per foration are indicated In a few cases in which simple drainage of the abdomen has been done the opening in the bowel has closed spontaneously These were cases in which the perforation was small Surgical closure of the opening in the diverti culum is usually impossible because of the induration and the degree of infection in the involved tissues Colostomy is much the safer procedure If rupture with abscess formation has occurred and there is a mass of adherent intestine about the site of the diver ticulum the condition is very serious If the patient survives the initial peritonitis residual abscess for mation and pocketing are the rule In such cases the author makes an oblique incision on the left side of the abdomen dissects the rectus muscle out of its sheath and displaces it toward the right side gently frees the pelvic colon after protecting the abdominal cavity by gauze packs and draws up the affected part of the pelvic colon and fixes it well over the iliac fossa where he drains it with one or more rubber tubes If possible the om ntum is drawn down and stitched around the mass to seal off the small intestines The diseased part of the pelvic colon is fixed with a few catgut sutures well into the left iliac fossa and away from the true pelvis If subsequent abscess formation results it can be dealt with much more easily and safely in this new loca tion The author has had very successful results with this method of treatment in a considerable number of cases The patients have been saved a colostomy and the inflammation has cleared up rapidly If at the time of operation the damage to the bowel is too severe to warrant the procedure described a colostomy should be done well above the site of the trouble Closure of the colostomy may sometimes be effected later If it is postponed too long the bowel will become too small below the colostomy If closure is to be attempted it hould be done not longer than after from six to eight months but after subsidence of all inflammatory symptoms Resection of the damaged bowel and end to-end closure is always rather difficult because of the adhesions present and the danger of opening into infection The end to-end anastomo is should be wrapped with omentum In rare instances it is possible to close the colostomy by short circuiting the affected part of bowel JOHN W NUZUM M D

Hollaender L The Diagnosis of Malignant Tu mors of the Colon (Beitraege zur Diagnostik der malignen Di kdarmge hwuelste) *Orioskip f* 1928 xvm 487

Malignancy of the colon should be suspected in the cases of all persons more than forty years of age who for the first time develop bowel disturbances such as constipation or diarrhœa The author re views the symptoms in eighteen cases of carcinoma of the colon In the majority they had been present for several months but in the case of a man seventy nine years of age and a woman seventy two years of age they had been noted for only from two to four weeks and the condition caused only a general weak ness and no pain Most of the patients complained of colicky pains associated with bowel movements

When the tumor was situated high macroscopi blood was never found in the stools but in every instance occult blood was present In two cases the red cell count was not reduced and in one case i was even elevated In most of the cases gastric analysis showed a tendency toward anacidity or hypacidity Roentgenological examination of the stomach showed moderate variations from the nor mal such as motor insufficiency irregular peristalsi and in nine cases cascade formation

The colon was examined with the aid of contrast meals given on a fasting stomach at intervals of from three to four hours In this way pastic and often stationary strictures can be demonstrated Organic strictures may be seen also with contrast enemata

Small tumors which do not cause obstruction may induce intestinal spasm The contrast enema dem onstrates very distinctly the surface of the tumor and slight roughness of the bowel wall Roe tgen ological examination without contrast material may be of value especially in ileus However even filling defects and stricture are not ab olute evidence of tumor Filling defects are often caused by a short mesocolon and di turbances of emptying a e absent in cases of tumors of the cæcum and ascending colon

MAKAI (Z)

Duval P The Closure of the Surgical Colonic Fistula and Anus Advantages of Intraperitoneal Closure According to the Statistics of Thirty Eight Cases (La fer neture des fistules et anus coliques chirurgi aux A antag s de la ferme t e intrapéritonéale d après une statistique de 38 ca) *Bull et mém S c tal d cl* 1928 liv 1336

The author regrets that intrapanetal extra peritoneal clo ure of the artificial anus seems to be taking the place of the intraperitoneal method He has used only the intraperitoneal method He re ports thirty eight cases—twenty nine of surgical anus of the transverse or left colon and nine of cæcal fistula In these cases there were no deaths In all the wo nd was comp'etely closed at once A clinical and roentgenological follow up of the patients for long perio ls—in one case for nineteen years—has shown the results to be perfect

cold water enough acetic acid is added to make 10 c cm and mixed by turning the tubes over five or six times After several minutes the shade of each tube is compared with that of the nearest standard solu tion and the bile salts are calculated by a mathemat ical formula

The figures found are not absolute but are of value in following the changes in the bile salts and com paring them quantitatively with other bile constitu ents AUDREY G MORGAN M D

Petermann J The End Results of Surgery of the Biliary Tract (Fernresultate der Gallenweg chirurgie) *Arch f klin Chir* 1928 cliii 1

This article is based on 680 operations on the biliary tract Five hundred and forty (85 per cent) of the patients were completely relieved of their symp toms 70 (about 10 per cent) still had mild symptoms after the operation and 34 (5 per cent) were not benefited Hernia occurred in the incision in 6 per cent This complication is best avoided by making the incision oblique Re operation was necessitated by adhesions in 5 cases Adhesions are best pre vented by a careful technique peritonization and limitation of tamponade True recurrence of stone in the common duct occurred in 3 cases Stenosis of the common duct developed in 5 cases including 2 of carcinoma Biliary fistula occurred in 8 cases in 2 cases the common duct was sutured and omento plasty was done in 1 case the common duct was anastomosed to the duodenum and in 1 case the entire fistulous tract was implanted into the stomach

Postoperative disturbances may be due to many causes In the cases of nervous patients many of whom have already been operated upon a number of times the indications for operation must be con sidered with great care As a rule the more marked the findings the better the results of surgery In cases of dennite stasis and cholangeitis the instilla tion of 20 per cent magnesium sulphate with the duo denal tube should be done before operation

Choledochoduodenostomy was performed in 24 cases with good results in some of them As pan creatic disease may also cause postoperative dis turbances Petermann splits the capsule of the pancreas if he finds the head of the organ thickened In the cases reviewed complaint was made more frequently of gastric disturbances and in 5 cases an ulcer of the stomach or duodenum was found Chronic appendicitis was not rare Postoperative disturbances developed most frequently in chronic cases Hence early operation is important In the entire series of cases the result was complete or nearly complete freedom from symptoms in 90 per cent and failure in 5 per cent VORDERBRUEGGE (Z)

Luetzow Holm G The Surgical Treatment of Gall Stones and Its Results (Ueber die chirurgische Behandlung der Gallensteine und ihre Erfolge) *Nord mag f Læger dansk* 1928 lxxxix 741

The author reviews 189 operations for gall stones which were performed in the period from 1910 to 1926 One hundred and fifty seven of the patients were females Cholecystectomy was the method of choice Cholecystostomy was done only in the cases of weak patients and when the anatomical conditions were particularly difficult When possible the oper ation was performed between attacks Of 30 patients who were acutely ill on admission to the hospital only 8 were operated upon during the acute stage

In 130 operations there were 7 deaths a mortality of 3 9 per cent Two of the patients who died were admitted to the hospital with acute perforated chole cystitis In 115 cases of simple cholecystectomy there was only 1 death a mortality of 0 85 per cent whereas in 32 cases of cholecystectomy with choledochot omy there were 4 deaths a mortality of 12 5 per cent The cause of death was peritonitis in 3 cases degen eration of the heart and liver in 2 cases cholæmic hæmorrhage in 1 case and bronchopneumonia in 1 case In 2 cases of cholæmic hæmorrhage the trans fusion of citrated blood was apparently life sav ing Drainage of the abdominal cavity was estab lished for from six to eight days by cigarette drains

The follow up showed good results in 90 per cent of the cases in which cholecystectomy was performed At re-operation stones were seldom found but in nearly every case there were extensive adhe ions which apparently were the cause of the postoperative disturbances Such disturbances usually occurred in the patients who had suffered from gall stone attacks and pain for some time before they were operated upon In such cases there were probably numerous pre-operative adhesions which favored the formation of new adhesions after the operation Therefore early operation is advisable KORITZINSKY (Z)

Gundermann W Recurrence After Cholecystec tomy and the Results of Its Treatment (Ueber Rezidive nach Cholecystektomie und die Ergebnisse ihrer Behandlung) *Mitt a d Gren geb d Med u Chir* 1928 xli 107

The author studied the cases of cholecystitis treated at the University Clinic of Giessen during 1921 and 1922 to determine whether there is any relationship between the type of a gall bladder in fection and the incidence of recurrence He found that colon bacillus infections even when quite severe had little tendency to recur (two recurrences in twenty four cases) Recurrence of typhoid and paratyphoid infection was equally infrequent On the other hand staphylococcus infection recurred in about 20 per cent of the cases in spite of the usually benign cour e of the disease Factors such as the patient s age and state of nutrition the duration of the illness and a history of icterus are apparently of no importance in the incidence of recurrence

Gundermann recommends autovaccination in in fections of the biliary passages In sixty four cases of staphylococcus infections so treated there were only nine recurrences whereas in thirty six cases in which vaccination was not done there were fifteen recurrences For cases of bile fistula after hepatic duct drainage he recommends the internal adminis

and position of the tissue planes and the position of the vessels and experience in beginning the operation at the base of the appendix are of great importance

Appendicectomy may be difficult also because of the occurrence of fibrosis in a partially cured appendicitis which renders the peritoneal tissue planes almost inseparable Even if removal of the appendix is possible in such cases the greatest care is necessary to prevent the formation of a fæcal fistula It is sometimes best to defer operation for six months

An appendix in an abnormal position as the result of developmental error is frequently the cause of serious difficulty at operation Each anomalous position gives different symptoms The author discusses chronic and suppurative subhepatic appendicitis The former is apt to be confused with chronic cholecystitis The operative difficulties in chronic subhepatic appendicitis are due to the inaccessibility of the base of the appendix which is situated over the right kidney and the fact that the last 2 or 3 in of the terminal part of the ileum are retroperitoneal and lie behind the cæcum Narrowing of the retroperitoneal segment of ileum due to its situation or the pressure of the loaded cæcum may cause a mild chronic intestinal obstruction with colicky pain If this is not remedied at operation the pain will persist after removal of the appendix In suppurative subhepatic appendicitis care must be taken to remove the appendix with the least prolapse of the jejunal coils which are so susceptible to infection and the least disturbance of the protective adhesive barrier Drainage must be established as far back of the right hypochondrium as possible that is over the right renal pouch and should be effected by means of a valvular opening such as is obtained through a gridiron incision in the muscles

Pelvic appendicitis is characterized by absence of tender points and reflex abdominal signs and the presence of bladder and rectal symptoms—frequency retention and tenesmus—symptoms of intestinal obstruction and a silent abscess without any symptoms whatever Sometimes the first symptoms of a quiet pelvic appendicitis and abscess are indistinguishable from those of intestinal obstruction The difficulties met at operation in such cases are due to (1) the intensely distended cæcum and small intestine which render exposure and removal of the appendix almost impossible (2) marked prolapse into the infected appendiceal area of the very dilated and easily infected small intestine and (3) inaccessibility of the pelvic appendix

In retroperitoneal and retrocæcal appendicitis there is generally some form of obscure pain in the right loin or the vicinity of the gall bladder Devine discusses also retroperitoneal cellulitis due to appendicitis and reports a case For cases of retroperitoneal or retrocæcal appendicitis he prefers the split muscle McBurney incision

EMIL C ROSITSHEK M D

Sauerbruch Carcinoma of the Rectum (Rectum carcinome) *Zent albl f Chi* 1928 p 3161

Sauerbruch denies that Schmieden and Westhus have advanced convincing proof of a causal relationship between polyposis and rectal carcinoma He therefore believes that extirpation of the entire hind gut on principle is not justified He states that in Zurich where rectal cancer is common the radical operation is usually possible whereas in Munich where the patients come to the clinic much later it can be performed in only 8 per cent of the cases

The author usually performs the sacral operation but mobilizes the hind gut only after opening the peritoneal cavity which he does soon after resecting the sacrum The formation of a sacral anus is avoided if possible Even when the sphincter is not preserved a perineal anus is formed As a rule the tumor is pulled through the anus and then removed Less frequently a resection is performed A permanent iliac anus is avoided also if possible in the abdominosacral operation Only in cases of extensive tumors and the cases of young persons is extirpation of the hind-gut performed

In Munich Sauerbruch obtained a three year cure in 42 per cent of the cases in which he performed an amputation and in 40 per cent of those in which he did a resection but in only 19 per cent of those in which he used the combined method Thirty (25 per cent) of the patients were still free from recurrence after five years GOEBEL (Z)

LIVER GALL BLADDER, PANCREAS AND SPLEEN

Chiray M Cuny L and Marcotte A Colorimetric Determination of the Bile Salts in Bile and Duodenal Fluid (Dosage colorimétrique des sels biliaires dans la bile et le liquide de tubage duodenal) *Bull et mém Soc méd d hôp de Par* 1929 xlv 158

The authors describe a colorimetric method of determining bile salts in the bile and duodenal fluid The duodenal fluid is rendered homogeneous by shaking and the bile if too concentrated is diluted A series of tubes are placed in a tube rack one for each fluid to be examined Two cubic centimeters of the fluid to be examined and 0 5 c cm of a solution of lead acetate are placed in each tube and mixed with enough 95 per cent alcohol to make 10 c cm. The mixture is then shaken and filtered and the filtrate is collected in the little tube that accompanies each larger one

One cubic centimeter of each filtrate is then placed in another series of tubes and in the last five tubes 1 c cm each of the five standard solutions of cholalic acid is introduced Then 0 5 c cm of a solution of furfurol and enough phosphoric acid to make 5 c cm. are added to each tube and mixed very carefully by shaking the tubes without turning them over The tubes are then placed in the holder and plunged first in boiling water for five minutes and then in cold water for five minutes On their removal from the

(until anatomical and physiological tests show that localization has set in) retroperitoneal lymphangeitis of the lower right abdomen acute puerperal infection acute simple cholecystitis subacute perforated ulcer or late sigmoidal diverticulitis

He states it should be opened in acute appendicitis before the development of peritonitis or in the absence of a forbidding peritonitis acute intestinal obstruction including volvulus intussusception obstruction at the foramen of Winslow through a congenital hole in the mesentery or in a peritoneal fossa mesenteric thrombosis torsion of the great omentum ruptured ectopic pregnancy ovarian tumor or uterine fibroid twisted on its pedicle ruptured ovarian blood cyst placenta prævia accidental hæmorrhage in the pregnant uterus rupture of the uterus perforation of the uterus chronic gonorrhœal or postpuerperal pyosalpinx incarcerated or strangulated hernia ultra acute cholecystitis acute perforated peptic ulcer acute pancreatitis and traumatic rupture of the liver spleen pancreas small intestine or bladder He believes that the sign of muscular rigidity alone justifies immediate opening of the abdomen

FRED C ROBITSHEK M D

Kiss F and Ballon H C Contribution on the Nerve Supply of the Diaphragm *Anat Record* 1929 xli 285

Recent investigations made chiefly by means of phrenicotomy have shown conclusively that the phrenic nerve is the most important nerve of the diaphragm Many investigators believe that the diaphragm is innervated also in its mid portion by the sympathetic and in its lateral portions on both sides by the eleventh intercostal nerve Others maintain that the phrenic nerve is the only motor nerve to the diaphragm The clinical observation of referred pain to the shoulder indicates that the phrenic nerve contains sensory fibers

Microscopic study of the phrenic nerve reveals three well differentiated forms of nerve fibers—large medullated or motor fibers thin medullated sheath sensory fibers and non medullated sympathetic fibers The large medullated or motor fibers predominate

From their own investigations and those of Felix the authors conclude that there is no intercostal motor innervation of the diaphragm The complete paralysis of the diaphragm after phrenicotomy also speaks against such innervation

On irritating the diaphragmatic pleura by means of a wire introduced into the pleural cavity Capps and Coleman found that irritation of the central part produced the same type of pain in the shoulder and neck as is produced by stimulation and cutting of the phrenic trunk Stimulation of the lateral margins of the peritoneal surface caused pain in the lower half of the thorax supplied by the lower five or six intercostals

The authors believe that the sympathetic sends fibers to the diaphragm through the phrenic and through the diaphragmatic plexus The sympathetic fibers take no part in sensory or motor innervation but probably have a vasomotor and perhaps a trophic function WILLIAM E SHACKLETON M D

tration of ox gall which has a relaxing effect on the sphincter of Oddi thereby relieving stasis of the bile ducts

CORRALIS (Z)

Timofeief N W The Closing Reflex of the Pylorus in the Clinical Investigation of the Function of the Pancreas and Liver (Le réflexe de fermeture du pylore comme méthode clinique d'exploration fonctionnelle du pancréas et du foie) *Acta m d Scand* 1928 lxx 300

The introduction of fat into the duodenum causes closure of the pylorus and arrest of the contents of the stomach until under the influence of the bile and pancreatic juice the fat is digested The author introduced 100 c cm of oil into the duodenum through a duodenal sound thus bringing about a reflex of the pancreas and liver and also a closing reflex of the pylorus In the presence of oil the closing reflex increases very quickly and decreases slowly The decrease of the closing reflex and the complete opening of the pylorus that is to say the total duration of the reflex clearly shows the rapidity of the digestion of oil in the intestines The oil is digested by pancreatic juice and bile and causes an active secretion of these fluids The rapidity of digestion of the oil depends on the functional condition of the glands Because of this association of reflexes the closing reflex of the pylorus is an accurate indicator of the function of the glands

The author's experiments showed that pathological changes in the secretion of the stomach which decrease the amount of hydrochloric acid in the gastric juice and diseases of the bile ducts and gall bladder are followed by a decrease in the functional activity of the pancreas and liver which is manifested by lengthening of the closing reflex of the pylorus When the pancreas is functioning actively hypersecretion of the stomach is accompanied by a decrease in the duration of the closing reflex of the pylorus but when the function of the pancreas is insufficient it is accompanied by prolongation of the reflex

AUDREY G MORGAN M D

Bernhard F Hyperglycæmia in Acute Pancreatic Diseases (Ueber d Hyperglykaemie bei akuten Pankreaserkrankungen) *Deutsche Ztschr f Chir* 1928 ccxi 209

Hyperglycæmia is an important sign of acute pancreatic disease The sugar tolerance determination will reveal the disturbance in the metabolism of sugar more clearly than the fasting blood sugar level and will rule out biliary tract diseases which also are sometimes accompanied by hyperglycæmia Mild acute pancreatic necrosis will be revealed by the sugar tolerance test when it is not demonstrated by the fasting blood sugar determination

In the case reported by the author pancreatic necrosis developed eleven hours after the last food was taken The cause of the hyperglycæmia was believed to be insulin deficiency Bernhard therefore recommends energetic insulin treatment in acute pancreatic necrosis

The activating action of the bile upon the diastase process in the liver and its importance in the treatment of icteric patients are discussed

DUSCHL (Z)

Staemmler Achelis and Machol Diabetes and Surgery (Diabetes und Chirurgie) *Zentralbl f Chir* 1928 p 2904

According to their anatomical peculiarities their independence of excretory passages and their ability to form tumors and according to the findings of comparative anatomy in the teleost fish the islands of Langerhans constitute independent organs Their functional importance has been demonstrated by metabolism studies ligations and extractions It is still doubtful whether the increase in the production of insulin which follows ligation of the ducts can be applied surgically In the majority of cases of diabetes there are quantitative and qualitative changes in the islands Whereas no constant changes are found in the other endocrine glands diabetes is associated with disturbances of the metabolism of sugar and fat the deposition of glycogen in the kidneys lipæmia and the deposition of fat in the reticulo endothelial system The surgical complications include atherosclerosis with gangrene reduced resistance to infection and the development of coma in narcosis

Oppel's attempts to influence diabetes surgically by extirpation of the adrenals and Mansfeld's attempts to treat it by ligation of the pancreatic duct have not been repeated The surgeon must consider diabetes from two aspects He must attack its complications the inflammatory processes and gangrene and must take the presence of diabetes into consideration in performing operations for other conditions Treatment with insulin is of importance chiefly to overcome the danger of coma Infections and gangrene are not cured by insulin but especially the former are rendered milder by it Insulin breaks the vicious circle of unfavorable influences between diabetes and infection The infection itself requires treatment as does also the gangrene The danger of other operations is considerably reduced by insulin However the generally lowered resistance of diabetics must be considered Karewsky says that diabetes is not a contra indication to urgent operation but that no avoidable operation should be performed on a diabetic

In the discussion HABS stated that he always gives insulin before operation even when the sugar has been controlled by dietary measures and he makes blood sugar determinations also in the postoperative treatment

BUETTNER (Z)

MISCELLANEOUS

Deaver J B When and When Not To Open the Abdomen in Acute Surgical Conditions *Ann Surg* 1929 lxxxix 340

The author believes that the abdomen should not be opened in cases of visceroptosis diffuse peritonitis

(until anatomical and physiological tests show that localization has set in) retroperitoneal lymphangeitis of the lower right abdomen acute puerperal infection acute simple cholecystitis subacute perforated ulcer or late sigmoidal diverticulitis

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GYNECOLOGY

UTERUS

Soiland A Costolow W E and Meland O N Radiation Treatment of Uterine Fibromyomata *California & West Med* 1929 xxx 234

In discussing the radiation treatment of uterine fibromyomata in younger women the authors state that if the radiation stops menstruation the menopause will not differ from that produced by hysterectomy The woman is not unsexed by the radiation and the treatment has never been known to be followed by changes in the secondary sexual characteristics There is considerable evidence that the internal secretory function of the ovary is not destroyed and that the chief action on the ovary is exerted on *the outer graafian follicle layer*

The frequency of sarcomatous transformation in *myomata is so small as to be negligible* Carcinoma of the fundus associated with uterine fibroids is fairly rare and if careful curettage is done before the radiation the danger of this condition also can be rendered negligible After combined radium and X ray treatment of fibromata the cervix is left small atrophic and fibrous

Severe anæmia accompanying uterine fibromyomata is not a contra indication to radiation nor is associated pelvic inflammation if deep X ray treatment is used The methods include (1) so called *low voltage X ray radiation (2) high voltage or deep* X ray radiation (3) radium radiation and (4) combined radium and high voltage X ray radiation The indications for each are discussed The authors review 562 cases and draw the following conclusions

1 Combined radium and deep X ray therapy is the best type of radiation treatment in the majority of cases

2 Radiation is practically specific in controlling the hæmorrhage due to uterine fibromyomata

3 The majority of fibromyomata larger than a four months pregnancy may be rendered symptomless by radiation

4 *Radiation is the treatment of choice for fibro*myomata not larger than a four months pregnancy

ROLAND S CRON M D

Ter Gabrielian G G The Etiology of Cancer of the Uterus (Ueber die Aetiologie de Gebaermutterkrebses) *Zischr f Krebsforsch* 1928 xxvi 362

Of 194 women with carcinoma of the uterus (portio cervix and corpus) whose histories were carefully investigated *35 per cent developed the* condition before the beginning of the climacterium The theories of infection and heredity are repudiated as only in 9 cases were any of the patient s relatives *affected with* cancer and in no instance was the husband suffering from cancer

On the basis of statistical tables it is shown that next to individual predisposition the most important cause is chronic irritation of a traumatic chemical or thermic nature Severe labors anomalies of posture the use of forceps lacerations of the cervix, frequent artificial interruptions of pregnancy criminal *abortions puerperal fever with adnexal in*flammation leucorrhœa hot douches etc provide an area of diminished resistance and favor the development of degenerative cell changes under the influence of malnutrition general intoxication of the organism chronic or acute infectious disease with simultaneous severe physical or mental work and poor housing and living conditions

Twelve of 13 of the nulliparæ with carcinoma of the portio and cervix whose cases are reviewed had had frequent artificial abortions In these cases injury of the anterior lip of the cervix by the forceps small lacerations in the cervix due to instrumental *dilatation and insults during curettage* were sufficient to lead to protracted disturbances of innervation and blood supply with subsequent inflammation (endometritis cervical catarrh and leucorrhœa) As these conditions are usually left untreated the chronic condition and irritation of the epithelium led to degeneration of the tissues On examination with the speculum signs of past injury (lacerations) could still be found in every instance *Protracted labors and even properly applied forceps* produced pressure injuries of the lower uterine segment and cervix by which in turn the crushing of tissue and nerves formed an area of diminished resistance to the development of carcinoma It is worthy of note that of the total number of 560 women with carcinoma 427 (76 3 per cent) had had pathological labors These are contrasted with 6 826 women who were treated for other conditions and went through 32 576 labors *with complications* in only 17 per cent

The author therefore concludes that the high incidence of carcinoma in women is due to the uterus exclusively because this organ is the one most subjected to trauma Women with frequent (7 or more) normal labors without puerperal fever were not affected by cancer Therefore all women should be delivered in obstetrical institutions having skilled attendants In this way one cause of *carcinoma* may be eliminated TERRITO (G)

Donaldson M The Technique of Treatment of Carcinoma of the Cervix by Means of Radium Needles *Proc Roy Soc Med* Lond 1929 xxii 810

The author describes the technique of treating cervical carcinoma with radium needles—50 mgm of radium in twenty two needles The needles are inserted in and around the growth and *left in place*

for a period of one hundred and forty four hours The immediate effects are healing of the cervix and vagina

The total dose of radium does not bear much relation to the fate of the patient In radioresistant growths the duration of the treatment is important Factors of importance to be considered are the possibility of a decrease of cancer resistance in cases of advanced growths the effect of the blood supply of the growth on its radiosensitivity, and the problem of an efficient attack on the advancing edge of the growth In St Bartholomew s Hospital the advancing edge of the growth is treated by roentgen rays *and intra abdominal radium irradiation* While the X ray is undoubtedly effective in reducing large masses of glands it does not prolong life in the advanced stages of the diseases The purpose of intra abdominal irradiation is to extend the influence of the radium Radium needles are placed all around the pelvic peritoneum at intervals of 1½ cm from both sacroiliac synchondroses and sutured in place At the end of a week the abdomen is re opened *The author has treated fourteen cases by this* method ALICE F MAXWELL M D

Bland P B Pyometra Following Radium Therapy for Uterine Cancer *Am J Obst & Gynec* 1929 xvii 528

Cervical atresia with retention of infected material within the uterine cavity called pyometra has generally been regarded as a rather uncommon condition but radium irradiation as the accepted treatment of cervical carcinoma has materially increased its frequency

The presence of pyometra should be suspected in the cases of women subjected to cervical irradiation who subsequently complain of a not constantly blood tinged purulent discharge especially a discharge associated with intermittent attacks of mid pelvic pain The expulsion of a large quantity of suppurative material followed by temporary cessation of the pain is a sign of the greatest diagnostic significance Still more important is diminution of the discharge followed by recurrence of the pain a syndrome indicating re accumulation

In cases with such a highly suggestive clinical history and subjective symptoms the diagnosis is confirmed by the presence of a resistant or semi-elastic tumor projecting above the symphysis and a with *ered fibroid cervix with an impermeable canal.*

If the cancerous involvement of the cervix is completely eradicated the ultimate outcome is favorable In the incomplete type catheterization of the uterus with or without lavage usually gives relief In the complete type hysterectomy is indicated if catheterization is impossible E L CORNELL M D

Violet Late Results of the Wertheim Operation in Cancer of the Cervix (Les résultats éloignés de l opération de Wertheim dans le cancer du col utérin) *Gynécologie* 1928 xxii 705

In 1919 the author reported the results of twenty five Wertheim operations and one vaginal hysterectomy for cancer of the uterine cervix which were performed in the period between June, 1909 and July 1914 The longest postoperative period was then ten years and the shortest five years Four of the patients died as the result of the operation Of the twenty two who survived nine (40 per cent) were alive and free from recurrence for more than five years

In this article Violet reports the results of twenty seven Wertheim hysterectomies three simple abdominal hysterectomies preceded by radium treatment and two vaginal hysterectomies which were performed in the period between June 1919 and June, 1928 Of the twenty seven patients subjected to the Wertheim hysterectomy three died as the result of the operation Of the twenty four who survived eight developed a rapid recurrence and three developed a recurrence after three years of apparent recovery Four have been free from recurrence for from six months to two years four for from two to four years two for more than six years *and three for seven eight and nine years* The longest survival has been nine years

It is evident therefore that the operations performed in the period from 1919 to 1928 gave less favorable results than those performed in the period from 1909 to 1914 the incidence of freedom from recurrence for more than six years being only 25 per cent after the former and 40 per cent after the latter

While the author began this article with the purpose of showing the value of radical operation he is obliged to acknowledge the value of radium and deep roentgen irradiation since in four of his cases this treatment resulted in freedom from recurrence for five four and three years All of these cases were considered inoperable but except in one instance for reasons other than the extent of the lesion AUDREY G MORGAN M D

ADNEXAL AND PERIUTERINE CONDITIONS

Chiari H The Occurrence of Oxyurids in the Human Fallopian Tube (Ueber das Vorkommen von Oxyuren im menschlichen Eileiter) *Arch f Path Anat* 1928 cclxix 730

Chiari reviews in detail the complications of oxyuriasis that have been reported in the literature to date Oxyurids have been found not only in the intestines but also in the female genital organs (vagina uterus and tubes) a fact which shows that they are not merely harmless intestinal parasites As yet however it has not been possible to prove that they may be of importance as causes of inflammatory changes

The author reports one of his own cases that of a woman twenty years of age who was suffering from adnexitis on the right side As a cure could not be achieved by conservative therapy the right adnexa were ultimately removed The fallopian tube was found to contain a female oxyurid with numerous ova and a large number of mature oxyurid ova in its vicinity The parasite lay partly in the lumen

of a crypt and partly in the mucous membrane of the fallopian tube The inflammatory exudate in the tube consisted mainly of eosinophile leucocytes It could not be definitely determined whether the oxyurid had any etiological relationship to the inflammation although there was considerable evidence indicating such a relationship

Hirsch Hoffmann (G)

Madruzza G Ovarian Transplantation Followed by the Administration of Thyroid Preparations (Ricerche sui trapianti di ovaio seguiti da somministrazione di preparati tiroidei) *Riv ital di ginec* 1928 viii 443

In experiments on castrated guinea pigs and rabbits one series of transplantations of ovary was performed without any special treatment and another series was followed by the administration of a glycerin extract of thyroid The extract was given by mouth The dose of from 2 to 5 drops a day was increased to 10 drops by the end of the first week and then remained constant up to the twentieth day A month later the animals were killed and the grafts examined microscopically

The histological examinations showed marked necrosis of the grafts and the surrounding tissue Between the graft and the surrounding tissue there was a distinct line of demarcation and in some cases a space of varying width As the changes were the same in both the treated and the untreated animals it appears that thyroid extract does not have any effect on the taking of such grafts However this finding does not disprove a stimulating action of the ovary and thyroid upon each other Such a mutual action seems to be demonstrated by both clinical and experimental observations The author suggests that possibly the taking of ovarian grafts is dependent upon the action of a number of endocrine glands since after ovariectomy changes have been found in the thyroid suprarenals thymus pancreas and hypophysis Possibly the ovarian grafting should not be done until sufficient time has elapsed for restoration of endocrine balance

Audrey G Morgan M D

EXTERNAL GENITALIA

Frigyesi J An Operative Procedure for Total Extirpation of Vaginal Cancer and the Adjacent Parts of the Rectum (Operatives Verfahren zur gesamten Extirpation des Vaginalkrebses und der angrenzenden Mastdarmpartien) *Orvosi hetil* 1928 ii 1241

In the introductory part of his article the author discusses the unfavorable prognosis of vaginal cancer and the reasons therefor The prognosis is unfavorable after early excision as well as after late operation with extirpation of all of the genital organs Frigyesi describes the methods of surgical treatment for this condition in use up to the present time and emphasizes his previously expressed opinion that it is unnecessary to amputate the rectum and deprive the patient of continence He describes an operation performed successfully on a diabetic patient

Under parasacral anaesthesia a vaginal cuff was formed from 1½ to 2 cm behind the urethra by a deep paravaginal incision extending to the coccyx From this incision the coccygeal and levator ani muscles were divided in the vicinity of the coccyx and the rectum to obtain an approach to the rectum The bladder was dissected away as far as the plica the peritoneum was opened in the vesico uterine pouch and the uterus and adnexa were drawn forward From above downward the ligament were ligated and divided so that the uterus and adnexa could be brought in front of the vulva The rectum was then separated from the sacral fossa with the fingers introduced into the deep paravaginal incision After ligation of structures of the para colpium the rectum was drawn out in front of the vulva with the aid of a strip of gauze the peritoneum was closed by suturing the vesical peritoneum to the sigmoid flexure with interrupted catgut sutures and extraperitoneal fixation of the ligaments and vessel stumps in both angles of the wound was done

The rectum was then ligated and divided from 4 to 5 cm above the parts in the region of the carcinomatous vaginal wall The distal end was also divided between intestinal clamps about 4 cm above the anus In this way the uterus with the vagina and the corresponding portion of the rectum was removed The mucous lining of the remaining anal portion was exposed dissected away and excised Then a ball forceps was inserted through the sphincter and the central end of the rectum was brought into the freshened anal opening with the aid of the silk thread used to close the central rectal stump and was fastened to the skin with circular interrupted silk sutures The blind vaginal sac was loosely packed with tampons the deep paravaginal incision closed in two layers with interrupted sutures and drainage established at the deepest point

This method which is scarcely any more dangerous than radical extirpation of the vagina meets the demands of radical extirpation and does not deprive the patient of the function of the sphincter The author recommends it for cases of carcinoma in the upper third of the posterior vaginal wall

Von Lobmayer (Z)

Graves W P and Smith G Van S Kraurosis Vulvæ *J Am M Ass* 1929 xcii 1244

Kraurosis vulvæ begins with vulvitis and pruritus, undergoes superficial epidermal changes in the form of leukoplakia and deeper dermal changes that result in shrinkage and retraction and terminates finally in cancer or a completely regressive change that is not entirely immune to cancerous degeneration Leukoplakic vulvitis described by some as a disease entity is an early stage of kraurosis

In the leukoplakic stage there is a hypertrophic condition of the epithelium associated with chronic inflammatory changes in the dermis Kraurosis is a regressive change In this condition the epithelium

is thinner than normal and its papillæ are short and thin or completely flattened out The greater activity of the epithelial layer in the leukoplakic stage has an important bearing on the development of cancer In a study of the tissues from twenty one cases of vulvar cancer Smith found leukoplakia sixteen times and kraurosis fourteen times The apparantly negative specimens were not well preserved or were too small for thorough study

The symptoms of kraurosis vulvæ are frequency burning on urination pruritus local pain a vaginal discharge a burning sensation in the vagina and a burning sensation on defæcation The vulva has a pale white or gray white appearance either in patches or over its entire surface It may be smooth or wrinkled Occasionally it presents raised areas the skin is tough leathery and dry and there is almost complete absence of hairs The condition may be associated also with genital atrophy tightness of the introitus vaginal adhesions ulcerations and cracks of the vulva a tumor of the labium and anal fistula There is progressive atrophy with imperfect drainage and irritative inflammation The condition is of gradual development and may be present for months or years before relief is sought

In the prekraurotic stage the underlying cause should be treated There is usually some interference with drainage which should be corrected—by surgery if necessary A palliative ointment should be used In essential or well established kraurosis partial or complete vulvectomy should be performed The use of radium and the X ray is to be condemned

E L King M D

MISCELLANEOUS

Macomber D A Statistical and Clinical Study of 1 000 Cases of Sterility *Am J Obst & Gynec* 1929 xvii 621

Sterility is a condition involving two persons each of whom may present a distinct problem It is extremely common to find in the wife or the husband or both a number of conditions any one of which might account for the sterility

The author reviews 197 cases of sterility due entirely to the male 619 cases due entirely to the female 186 cases due to both the male and the female and 86 cases of incomplete sterility

In the 1 070 cases there were 208 full term pregnancies 8 miscarriages and 11 blighted ova making a total of 247 pregnancies The incidence of pregnancy was therefore 23 1 per cent The incidence of full term pregnancy was 19 4 per cent If 62 cases of incomplete sterility 41 cases of aspermia the cases of 15 women over forty years of age and of 1 man over seventy years of age the cases of 5 diabetics and 2 nephritics and 110 recent cases are deducted the incidence of pregnancy was 28 8 per cent and the incidence of full term pregnancy 24 1 per cent

In the discussion Cary said that in 57 per cent of his cases of sterility the condition is due to some condition which prevents union of the sperm cell and the ovum In 33 per cent of the cases the obstruction is in the fallopian tubes Cary does not consider laceration of the cervix a cause of sterility unless it gives rise to endocervicitis which prevents sperm cell migration E L Cornell M D

Gilbert R and Eghiayan A The Disturbances of the Roentgen Menopause (Contribution à l étude des troubles de la ménopause roentgénienne) *Acta radiol* 1928 ix 411

The authors have made a comparative statistical study of disturbances of the artificial menopause brought on by removal of the ovaries with or without hysterectomy alone and by roentgenotherapy Their own observations are based on fifty cases treated by the roentgen ray They discuss chiefly the flashes of heat arterial hypertension obesity headache neuromuscular weakness psychic disturbances loss of memory sexual disturbances skin troubles and constipation

They conclude that disturbances are less common and less severe in the roentgen menopause than in the surgical menopause The differences are less marked between the menopause induced by hysterectomy alone and the menopause induced by the roentgen ray

They believe that in cases of roentgenotherapy the destroyed ovarian tissues are absorbed by the organism the absorption resulting in a sort of autopotherapy which in many cases is sufficient to decrease if not entirely prevent the disturbances of the menopause

King E S J and Fiddes J A Clinical and Pathological Study of Endometriosis *J College Surg Australasia* 1929 i 303

The authors discuss in detail the distribution theories as to origin macroscopic and microscopic appearance symptoms diagnosis and treatment of extra uterine endometrial tissue

They state that endometriosis is not uncommon and that failure to diagnose it is due to a lack of knowledge of its diverse manifestations and insufficient investigation of the material removed at operation Endometriosis is of serious import Spontaneous recovery if it occurs at all is unlikely without considerable morbidity The prognosis depends largely on the treatment which at present is mainly surgical Clinical investigation with regard to the value of radium irradiation and deep X ray therapy is desirable

Because of the ubiquity of the growths in the lower abdomen endometriosis is of importance to the general surgeon as well as to the gynecologist

Alice F Maxwell M D

Heyman J Experiences with Radiological Treatment of Cancer in Gynecology *Proc Roy Soc Med* Lond 1929 xxii 801

Cancer of the uterus can be cured (absence of recurrence for a period of five years or longer) by

radiological treatment The effect of radiation upon the tumor cells is a selective one and the healing process is a plastic restoration In cured cervical cancer of the portio the cervix and vagina are restored to their normal outlines even when there is marked destruction before the treatment Unskillfully applied radiotherapy will not cure the cancer and may cause severe damage evidenced by necrosis sloughing and fistula formation, which may not become manifest until after a latent period of from six months to several years

At Radiumhemmet in the period from 1910 to 1918 the inoperable cases of cervical cancer made up from 80 to 97 per cent of the total number of cases of this condition In 1919 it was concluded that attempts to irradiate inoperable cervical cancer were justifiable and desirable While the number of inoperable cancers had trebled the operable cases had increased tenfold During the period from 1914 to 1923 the incidence of borderline or inoperable cases was 74 5 per cent and that of operable cases 25 5 per cent

A review of the results of radium irradiation in all types of cervical carcinoma treated in the period from 1914 to 1923 showed that of 737 patients primarily 0 treated 170 (23 1 per cent) were alive and free from recurrence five years after the treatment Sixteen (2 1 per cent) died soon after the treatment

Of the 188 of these 737 women who had operable cervical cancers 43 6 per cent obtained a five year cure If 6 patients who were operated upon subsequently and survived are deducted the incidence of five year cure was 40 4 per cent

The radium treatment consists in the administration of 3 relatively heavy doses within a month at intervals of one two or three weeks and adjusted with reference to the reaction and the course of healing Each application takes from nineteen to twenty three hours The filters are equal to at least 3 mm of lead The total vaginal application is 4 500 mgm hrs in 3 treatments Successful results require technical skill a knowledge of the biological effects of radium and individualization of each tumor treated

Of 46 women with cancer of the corpus 20 (43 5 per cent) were alive and well five years after the treatment Of the 25 in this group who were classified as clinically or technically operable 15 (60 per cent) were alive and free from symptoms at the end of five years In general the treatment of cancer of the fundus is based upon the same principles as that of cancer of the cervix but in the latter condition because of the frequency of vaginal metastasis radium was applied in the vagina and uterus even in the absence of evident metastasis to the vagina In fundal carcinoma the vaginal dose was limited to two thirds of the total vaginal dose which is usually given in cervical cancer i e about 3 000 mgm hrs If hæmorrhage appeared within two months after termination of the treatment or if evidence of recurrence appeared panhysterectomy was done Pyometra is always a sign of recurrence

The author s small series of cases of cancer of the ovaries seems to indicate that in this condition radiological treatment alone does not yield lasting results and a combination of surgery and irradiation is necessary If possible the growth is removed When the growth is inoperable X ray treatment is begun with small daily suberythema skin doses on small abdominal skin fields Repeated blood counts are of value Leucopænia or a relative lymphopænia indicate over irradiation If the tumor becomes smaller and mobile operation is done four weeks after the last X ray treatment and irradiation is carried out postoperatively Patients operated upon incompletely are treated radiologically in the same way In advanced inoperable and recurrent cases only palliative effects are to be expected from X ray treatment Prophylactically treated patients are given one intra uterine application of radium X ray therapy is the main factor in the treatment of ovarian carcinoma

Carcinoma of the vulva requires combined treatment with electro endothermy, the X ray and radium local and at a distance Myoma is treated by roentgen irradiation almost exclusively

In conclusion the author states that the success of radiotherapy in gynecological cases at Radiumhemmet must be attributed to the technique of a well-equipped radiological clinic experience and cooperation of the pathologist physicist and clinicians ALICE F MAXWELL, f D

Mikulicz Radecki F von The Operative Treatment of Urinary Incontinence (Zur operativen Behandlung der Incontinentia urinae) *Zentralbl f Gynaek* 1928 p 3075

Successful treatment of urinary incontinence in the female requires an exact knowledge of the normal closing mechanism of the bladder In the last decade our knowledge regarding this closure has been considerably increased with the result that a number of operations previously performed have been abandoned in favor of others which are more in conformity with the physiology of bladder closure

In order to determine the value of the latter procedures the author studied thirty-seven cases of urinary incontinence operated upon by Stoeckel in the last five years In twenty nine of these cases the incontinence was due to the trauma of labor It either followed delivery immediately (usually operative delivery) or developed later in association with prolapse of the genital organs or the formation of a urethrocele In 60 per cent of the cases injuries of the sphincter due to the trauma of labor were apparent on inspection before or at the time of operation In five cases the cause was a gynecological operation in one case radium irradiation of the urethra for carcinoma and in one case a malformation In another case a primarily psychic incontinence was aggravated by an unnecessary operation

Among the clinical findings of interest was the frequent presence of a urethrocele as a cause of the incontinence (fourteen cases)

Twelve cases are reported in detail In nine of these, from one to nine operations had been performed previously In six of the latter there were marked defects in the bladder neck and the urethra in three there was extensive destruction of the sphincter and in three there were scars in the anterior wall of the vagina

In fifteen cases the treatment consisted in direct muscle plasty Fourteen of these fifteen cases were cured In nine cases a pyramidalis plasty was done with successful results in six In fifteen cases (two cases of recurrence following the procedures just mentioned) the uterus interposition operation was done sometimes in combination with reconstruction of the urethra Of eight mild cases in this group all were cured Of seven severe cases four were cured and in one the condition was considerably improved The one failure occurred in the case of a patient who came for treatment when she was inoperable If we exclude two such cases and the case which was previously treated with radium and in which the prognosis was unfavorable the incidence of cure was 94 per cent

Such results are dependent upon not only a good technique but also correct indications for the procedure used Direct muscle plasty is the method of choice for all uncomplicated cases (tears of the sphincter urethrocele) Pyramidalis plasty is indicated when it is necessary to liberate extensive adhesions and prevent their recurrence and when in the presence of particularly severe injuries of the sphincter it is necessary to supplement the direct muscle plasty The uterus interposition operation—the most certain method—is to be considered in cases of urinary and vesicovaginal fistula loss of the sphincter and complete loss of the urethra

MIKULICZ RADECKI (G)

Babcock W W The Vaginal Approach for Certain Intraperitoneal Operations *Am J Obst & Gynec* 1929 xvii 573

Vaginal section has never been popularized despite the enthusiasts who have urged its advantages Nevertheless there are conditions in which it has a lower mortality and morbidity than an incision through the anterior abdominal wall and access to the field of operation is more direct and at least no more difficult than in anterior abdominal section

Vaginal section is of value particularly for operations within the pelvis in the cases of obese women with a relaxed or lacerated outlet It has the disadvantage of limiting exploration of the abdominal structures above the pelvic brim but even delicate conservative operations upon the uterus tubes or ovaries shortening of the uterine ligaments and operations upon the rectum pelvic colon lower ureters appendix and small intestine may be carried out by the vaginal route often with greater facility than through a thick abdominal wall

For operations requiring dependent drainage or the greatest possible exposure and for operations upon the rectum intestine and appendix posterior colpotomy is to be preferred For operations upon the base of the bladder and the ureters and for conservative operations upon the uterine ligaments and adnexa anterior colpotomy gives more direct access

E L CORNELL, M D

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Kraul L and Rippel J Experiences with the Zondek Aschheim Test for Pregnancy (Erfahrungen mit der Zondek Aschheimschen Schwangerschaftsprobe) *Zentralbl f Gynaek* 1929 p 22

The authors applied the Zondek Aschheim test in the cases of thirty women most of whom presented difficulties in diagnosis They affirm on the whole accuracy of this test Of thirteen cases of very early pregnancy some of them those of young women with hypoplastic uteri and others those of multiparæ with very large uteri the reaction was positive in twelve and the diagnosis was later verified In the one case in which the diagnosis was not made by the test only one test mouse instead of the usual five was used In the three cases in which the test was negative (one with an abundant quantity of the ovarian hormone in the urine) the absence of pregnancy was verified by the later course of events In one case in which there was a large broad based tumor of the ovary adherent to the uterus laparotomy for removal of the growth was decided upon on the basis of the negative result of the test In two cases of myomatous uterus and in one case of volvulus of an ovarian tumor an associated pregnancy was correctly diagnosed The sensitiveness of the reaction verified the diagnosis of a three weeks fetus made by palpation of the bleeding uterus Like Zondek and Aschheim the authors found the reaction positive in extra uterine pregnancy while the fetus was still alive and negative a few days after its death They also confirmed the presence of an abundant quantity of the hormone of the anterior lobe of the hypophysis in a case of hydatid mole likewise the presence of abundance of the ovarian hormone in the urine in the days following the death of the fetus

In the theoretical discussion at the end of the article the authors discuss the questions as to why despite the presence of large amounts of the hormone of the anterior lobe of the hypophysis ovulation ceases during pregnancy and why despite the excretion of an abundant quantity of the ovarian hormone in the urine the formation of follicles is absent during the puerperium They offer no explanation for these apparent contradictions The dependence of the reaction upon the presence of a living fetus suggests that the hormone of the anterior lobe of the hypophysis may be formed also in the placenta Are these two hormones excreted during the period when they are not of use? The organs are by no means organo specifically affected The effects of the hormone of the anterior lobe of the hypophysis can be inhibited by the coincidental administration of adrenalin Insulin is also effective in this respect likewise thyroxin and adrenalin with which as with the administration of the ovarian hormone the course of pregnancy may be disturbed In any case the condition of the affected organs also plays a rôle in the hormone effect FLESCH (G)

Falls F H Hyperthyroidism Complicating Pregnancy *Am J Obst & Gynec* 1929 xvii 536

Many of the nervous symptoms noted in pregnancy are probably due to abnormal activity of the thyroid gland induced by the pregnant state Mild hyperthyroidism is a not uncommon complication of pregnancy and requires no special treatment. Symptoms of exophthalmic goiter may manifest themselves first during pregnancy When they are present before conception they are usually aggravated during pregnancy but in some cases become less marked The vomiting and toxic symptoms of exophthalmic goiter during pregnancy may be diagnosed erroneously as hyperemesis gravidarum

Women with this condition during pregnancy are best treated conservatively with bed rest and Lugol's solution as long as improvement occurs Operation should be performed only when medical management fails or should be delayed if possible until the thirty fifth week when premature delivery will be harmless to the baby In cases of exophthalmic goiter and toxic adenoma operation if skillfully performed offers a fairly good chance for the baby even when it is done early in pregnancy The maternal mortality has been as low as 0 5 per cent and the average maternal mortality is 1 per cent

Toxic adenomata are also best treated conservatively unless the pressure or toxic symptoms are too severe when lobectomy is indicated

Labor is well supported but to spare the woman as much as possible it is advisable to shorten the second stage by operative intervention when conditions are favorable

Seriously intoxicated patients who are first seen late in pregnancy and do not respond to medical treatment are best delivered by vaginal or abdominal cæsarean section

In the author's experience babies born of mothers with hyperthyroidism mild exophthalmic goiter or toxic adenoma have shown no clinical evidence of goiter E L CORNELL M D

Dieckmann W J The Hepatic Lesion in Eclampsia *J Obst & Gynec* 1929 xvii 454

According to the author's theory the lesion of eclampsia may be produced by substances entering the portal circulation from the intestine Under normal conditions these substances are neutralized or disintegrated in the circulation but when the neutralizing substances (proteolytic enzymes) are

being used up in the reaction to placental elements constantly entering the blood stream the absorbed sub tances cause a marked decrease in the coagu lation time in the portal system with resulting thrombo is in the portal capillaries

In experiments on dogs Dieckmann was able to produce portal thrombosis by injecting ti sue fibrino gen into the portal vein and the peripheral circula tion When the dosage was kept within the limits for the individual dog it caused marked peripheral necrosis with hæmorrhage

The author hopes to obtain the same results from the oral administration of ti ue fibri ogen His findings to date confirm his theory

In conclusion Dieckmann says that if both peripheral injection and oral administration of the tissue fibrinogen give positive results it will be pos ible to explain the lesion of eclampsia in the liver and why the preventive treatment of eclampsia namely limitation of protein in the diet in the last months of pregnancy and maintenace of good intestinal elimination has been so effective

E L Cornell M D

Kouwer B J Fatal Intra Abdominal Haemorrhage at the End of Pregnancy Caused by Decidual Excrescences on the Posterior Wall of the Uterus Very Extensive Necrosis of the Hepatic Cells as in Eclampsia (Hemorrag e l'thale intra abdominale à la fin de la grosse e cau ée par excroi sances déciduale sur la paroi p teneure de la matrice nécro e fort étendue des cellul s h patique comme dans l éclampsie) *Gy éc et obst* 19 9 xix 34

The patient whose case is reported was a woman thirty nine years of age who became pregnant after twelve years of sterility Her last menstruation occurred from March 2 to 7 Early in April she had a slight los of blood and experienced occasionally attacks of slight vertigo She did not vomit On April 20 she consulted a surgeon because of pain He found no indication of appendicitis The uterus seemed slightly larger than normal On May 7 there was a slight metrorrhagia and on the night of May 10 to 11 ther was slight pain in the lower part of the abdomen Examination by the author the next day revealed in the cul de sac of Douglas a solid not painful mass compressing the uterus on the right and above Since no tumor had been discovered by the surgeon three weeks previously Kouwer made a diagnosis of retro uterine hæmatocele

During a period of rest in bed there was slight pain in the right iliac fossa and some nausea Laparotomy performed on May 21 revealed that the rounded mass on the right side which had been thought to be the fundus of the pregnant uterus was an ovarian cyst the size of a mandarin orange and that the supposed hæmatocele was the pregnant uterus with a fibromyoma in the posterior wall and several smaller fibromyomatous nuclei A small cyst of the left ovary was accidentally broken and from it a small quantity of a brownish watery fluid was evacuated The tubes were normal The right ovarian cyst was removed The appendix showed no trace of inflammation Its antimesenteric border was covered by a layer of small decidual excrescences

The patient recovered and the pregnancy con tinued Toward the end of August there was a persistent cramp of the uterus without the character istic rhythm of labor pains On the night of Decem ber 8 to 9 the pains became accentuated but did not resemble true labor pains On the following day palpation elicited pain throughout the abdomen The uterus was extremely sensitive and responded to every touch with long contractions The patient discovered that she could relieve the pain by lying on her side The next day an hour after lunch she had a sudden attack of very severe and continued pain Palpation of the inferior pole of the uterus was ex tremely painful The uterine cervix was not shortened The pulse was very small and rapid An injection of morphine caused no change

During laparotomy the fetal heart sounds stopped and a considerable quantity of fluid blood and clots escaped The probable source of the hæmorrhage was the extensive layer of decidual excrescences on the posterior wall of the lower segment of the uterus There was no sign of bleeding within the uterus The dead fetus was well developed The placenta was not detached The uterus was amputated The patient died soon after she was returned to bed

At autopsy the liver was found to be pale Micro scopic examination showed very extensive necrosis of the hepatic cells The appearance of the cells was similar to that noted in eclampsia and in certain cases of uteroplacental apoplexy Decidual tissue covered a large part of the posterior surface of the inferior pole of the uterus the ovaries the appendix and here and there the adjacent peritoneum This tissue was abdundantly vascularized No gaping artery or vein was found at operation or autopsy The degeneration of the hepatic cells seemed to be an undeniable sign of intoxication of pregnancy although there had been no albuminuria glycosuria œdema vomiting or malaise The extremely vascular decidual layer the exaggerated reaction to pregna cy seemed to have predisposed to rupture Probably the distention of the lower pole of the uterus preparatory to labor furnished the ultimate cause It is probable also that there was some rela tion between the intoxication and the exceptional decidual reaction

Pace

Hellmuth K Spontaneous Rupture of the Uterus in the Scar of a Cervical Intraperitoneal Cæsarean Section and a Discussion of the Question as to Whether the Broadened Indications for the Modern Cæsarean Section Are Justified (Ueber spontane Uterusrupturen in der Narbe nach cervicalem intraperitonealen Kaiserschnitt zugleich ein Beitrag zur der Frage Ist die erweiterte Indi kationsstellung bei der modernen Schnittentbindung zu befuerworten) *Muenchen med Wchnschr* 1928 ii 1626

To the previously reported sixteen cases of spon taneous rupture of an old cæsarean section scar in a

subsequent pregnancy and labor the author adds three cases of his own In the first instance the rupture of the old scar was discovered accidentally during the third cæsarean section In the two others serious symptoms developed during the second labor after the cæsarean section and the rupture was found in the ensuing laparotomy In the first case a supravaginal hysterectomy was done but in the two others a conservative operation was performed with suture of the uterus in three layers Recovery resulted in all three cases

The author emphasizes that every woman who has had an abdominal section should be considered liable to rupture of the uterus in a later pregnancy or delivery and should therefore be delivered after cæsarean section in a hospital The danger of such rupture is particularly great in cases of placenta prævia in which the placental site is over the region of the scar

Because of the possible dangerous consequences in pregnancy and labor after a cæsarean section the author urges restriction of the indications for abdominal section and a return to the test of labor as a basic principle. VON WENZIERL (G)

Mendenhall A M Solution of Pituitary and Ruptured Uterus *J Am M Ass* 1929 xcii 1341

Mendenhall warns against the unfavorable effects of pituitary extract on both the mother and the child In the case of the child these include intracranial hæmorrhage and asphyxia and in the case of the mother premature separation of the placenta serious lacerations of the cervix and perineum, serious postpartum hæmorrhage shock collapse and rupture of the uterus While the pressor action of pituitary extract and its effect on isolated uterine muscle have been studied thoroughly and much progress has been made toward obtaining a dependable product we are still confronted with the fact that two ampoules from the same package may vary widely in their effect on the woman in labor The action often begins within four minutes after the hypodermic injection and may continue for from twenty to thirty minutes When the action has once begun it continues without interruption until the force of the drug is spent There is no satisfactory antidote to an overdose of the drug

In ruptured uterus the chief problem is to decide whether the abdomen is to be opened Statistics seem to indicate conservative treatment as packing from below produces much less trauma and shock and is less apt to be followed by sepsis However if conditions prevail which preclude a reasonably safe delivery of the baby by way of the vagina a laparotomy becomes necessary

The author summarizes his conclusions as follows

1 Solution of pituitary is a valuable drug for postpartum hæmorrhage

2 It is probably safe in the third stage of labor

3 It is probably safe in the induction of labor if it is used cautiously and in properly chosen cases

4 It is never safe in the first stage of labor

5 It is rarely if ever safe in the second stage of labor Its use is of value chiefly to the accoucheur instead of to the mother or the baby Other obstetrical procedures are nearly always safer

6 There can be no rule as to the treatment of the ruptured uterus but the attendant must remember that conservation may often save life when a radical procedure would prove fatal

ROLAND S CROY M D

Solieri S Circumscribed Painful Tetany of the Pregnant Uterus as a Cause of Detachment of the Normally Inserted Placenta (Tetania circoscritta dolorosa dell utero gravido e distacco prematuro della placenta normalmente inserta) *Clin ostet* 1928 xxx 869

Some years ago by a case in which he performed a hysterectomy for torsion of an abdominal tumor the author was led to believe that there may be a circumscribed tetanic contraction of a part of the wall of the pregnant uterus In the case cited he found the uterus rotated 180 degrees on its longitudinal axis It contained the detached placenta and its wall was spastically contracted at the insertion of the left tube Solieri concluded that the local tetany was the cause of the rotation but was unable to prove this assumption In this article he reports a case which he thinks absolutely confirms his theory

The patient was a woman thirty nine years of age who was pregnant for the fourth time Her other pregnancies had been normal In the fifth month of the fourth pregnancy after an intestinal disturbance she began to have spasmodic pain in the abdomen and uterine hæmorrhage On her admission to the hospital examination showed a smooth tumor as hard as wood in the right horn of the uterus Pressure on the tumor was particularly painful The neoplasm was as large as a fist and disappeared gradually into the wall of the uterus A diagnosis of intramural myoma was made and a subtotal hysterectomy performed

When the specimen was laid on a table the tumor began to increase in size After about a quarter of an hour there was no tumor at all After completion of the operation examination showed premature detachment of a normally inserted placenta at least a third of the placenta was detached Above the detachment at the site of the tumor the wall was somewhat thicker than the rest of the wall of the uterus There was no hæmorrhagic infiltration of the wall except for a zone about 6 cm square on the posterior part immediately below where the tumor had been

This case proved that a circumscribed tetany of the pregnant uterus is possible and may cause premature detachment of the placenta In some pregnant women there is a constitutional mechanical and electrical hyperexcitability of the nervous system which creates a predisposition to partial and general spasm This is a condition of spasmophilia None of the factors which cause spasm in pregnancy

are effective unless they act on such a latent condition of spasmophilia but mechanical nervous or chemical irritations acting on such a predisposition may cause local tetany of the uterus and detachment of the placenta AUDREY G MORGAN M D

Rhenter J and Pigeaud H Abortion Caused by Vicious Insertion of the Placenta (Contribution à l'étude des avortements provoqués par une insertion vicieuse du placenta) *Gynéc et obst* 1928 xviii 464

Among fifty cases of spontaneous abortion seen by the authors there were four in which the abortion was evidently due to placenta prævia The fetus was expelled after from three and a half to five months and the placenta showed the characteristics of vicious insertion being inserted at the lower pole of the fetus flattened very thin appearing in places as if divided and on its maternal surface presenting many blackish clots

The authors believe that about 15 per cent of spontaneous abortions are caused by vicious insertion of the placenta They tried to determine why in many of these cases of vicious insertion the placenta is expelled before the fifth month while in others it is carried almost to term They concluded that the abortion is not caused simply by the death of the fetus in the uterus as the fetus may live when the placenta is inserted on the wall of the tube the cellular tissue of the broad ligament or even the peritoneum The real cause of the abortion is absorption between the fourth and fifth months of the part of the decidua that lies over the cervix This leaves the chorionic villi exposed and results in hæmorrhages which at first are slight but become progressively more severe Sometimes the blood collects and forms a clot of varying size which is ultimately expelled by a more copious hæmorrhage The consequent mechanical irritation of the cervix finally provokes contractions of the uterus with expulsion of the fetus

The authors think that in the cases that progress almost to term the placenta is marginal at first As there are no villi over the cervix hæmorrhage does not necessarily take place but as the placenta grows it finally extends over the cervix The central villi then rupture and cause hæmorrhage and abortion AUDREY G MORGAN M D

LABOR AND ITS COMPLICATIONS

Henry J R and Jaur L Epidural Anæsthesia in Obstetrics (De l'anésthesie épidurale en obstétrique) *Gynéc et obst* 1929 xix 9

This article deals particularly with anæsthesia induced by injection of the anæsthetic into the epidural tissues of the sacral canal through the sacrococcygeal hiatus A high epidural injection is made with a long needle (a spinal anæsthesia needle) penetrating from 4 to 5 cm into the sacral canal It is followed by complete anæsthesia of the entire posterior tract Labor is interrupted and does not resume its course until after the return of sensibility The low epidural injection is made with a shorter needle (Tauchet's local anæsthesia needle a needle called the epidural needle or a serum needle) which is inserted from 1 to 3 cm into the sacral canal It completely anæsthetizes the perineum vulva vagina and levatores and sometimes the uterine cervix It brings about a diminution of the pains of the dilatation period renders the passage of the head through the perineum painless and in relaxing the perineum facilitates expulsion of the fetus It does not modify the uterine pains

The advantages of epidural anæsthesia over spinal anæsthesia and over general anæsthesia are its greater safety the absence of shock and of general disturbances the long duration of the anæsthesia (from two to three hours) and in low epidural anæsthesia in particular the absence of the danger of uterine inertia from paresis The chief disadvantage of low epidural anæsthesia is the absence of anæsthesia of the uterus and that of high epidural anæsthesia the danger of serious hæmorrhage during delivery

High epidural anæsthesia should be reserved for cases in which it is desired to stop labor for two or three hours for certain versions brought about by difficult external maneuvers and for versions by internal maneuvers which are rendered difficult by uterine contraction

Low epidural anæsthesia which is almost harmless may be used in cases in which it is desired to terminate dilatation or to obtain expulsion and delivery without pain and in cases of obstetrical interventions especially the application of forceps It is less favorable for versions by internal maneuvers In cases in which perineorrhaphy is necessary it is the procedure of choice

Twenty illustrative cases are reviewed PACE

Lull C B Cæsarean Section *Am J Obst & Gynec* 1929 xvii 403

This article is based in 109 cæsarean sections performed in 2 161 deliveries Ether was given 104 times nitrous oxide-oxygen was given twice and local anæsthesia was induced three times

The classical type of operation was done in all of the cases Myomectomy was performed once and celiohysterectomy three times Fifteen patients who had been previously subjected to cæsarean section were sterilized Fifty-one of the patients had been operated upon before at the onset or very shortly after the onset of labor One hundred and three patients had unruptured membranes at the time of operation In 10 cases there was no morbidity Seven patients died a mortality of 6 4 per cent Nine babies were stillborn or died shortly after birth

Women who were operated upon before or at the onset of labor had a much less stormy convalescence than those who were operated upon after they had been in labor for several hours

In the discussion LONGAKER called attention to the need for a clear definition of the test of labor He emphasized that labor in the first stage is not a test

of labor even if it continues for twelve hours or longer He believes that spinal anæsthesia is very practical and as safe as any method of anæsthesia can be safe For women with a cardiac condition he advised the use of chloroform E L CORNELL M D

PUERPERIUM AND ITS COMPLICATIONS

Dmitrovsky G A Puerperal Infections Treated by Besredka s Method (Les infections puerpérales traitées suivant la méthode de Besradka) *Gynécologie 1929 xxviii 15*

Besredka s method of applying vaccine locally was used in more than twenty cases of puerperal and gynecological infection A filtrate was made from the discharge in the given case and applied locally by means of intra uterine and intravaginal tampons Generally from 4 to 8 c cm of the filtrate were used for each application and the application was repeated from four to eight times In most of the cases staphylococci were found in five cases diplococci and in three cases streptococci The tampons were left in place at first for only from six to twelve hours but later for twenty four hours

Under this treatment the wound surfaces rapidly became clean After the second day the purulent secretion could be removed with a bit of cotton and scarlet granulations appeared The turbid secretion became clear and the pathological flora was replaced by a normal type There was an increase in the number of leucocytes both neutrophils and lymphocytes There were no complications and no signs of anaphylaxis Urticaria developed in one case but did not appear to have any relation to the treatment.

In the author s opinion Besredka s method is of value for both the prophylaxis and the treatment of puerperal infections AUDREY G MORGAN M D

NEWBORN

Hampson A C Grave Familial Jaundice of the Newly Born *Lancet 1929 ccvii 429*

In grave familial jaundice of the newborn the yellow tinge usually appears on the first day The temperature is normal The stools are normal in color but the urine contains an excess of urobilin and frequently shows bilirubin As a rule the liver and spleen are not enlarged In untreated cases the condition is progressive but in seventeen of eighteen cases treated with serum which are reviewed by the author recovery resulted In the one exception the treatment was not begun until the seventeenth day when the child appeared moribund

In conclusion Hampson emphasizes that jaundice occurring within the first twenty four hours after birth should always be regarded as serious and that jaundice which does not appear until the second day should be regarded as equally serious when there is a familial history of infant deaths from jaundice

ROLAND S CRON M D

GENITO-URINARY SURGERY

ADRENAL KIDNEY AND URETER

Sokolov N Congenital Malformations of the Kidneys (Angeborene Mißbildungen der Nieren) *Vestn Chir* 1928 xii 166 xiii 260 141

This report is based on the protocols of 50 198 autopsies performed at the Obuchov Hospital during the years 1890 to 1927 and 5 of the author's own operative findings The different malformations of the kidneys are classified into the following 6 groups (1) renal aplasia (2) renal hypoplasia (3) congenital renal dystopia (4) fused kidney (5) cystic degeneration of the kidney and (6) various other renal malformations

Unilateral aplasia of the kidney was found in 51 (0 1 per cent) of the cases In 28 it was on the right side It occurred 34 times in males (33 664 autopsies) and 17 times in females (16 534 autopsies) Simultaneous absence of the ureter was found in 12 of the 51 cases a rudimentary ureter in 2 a blind protrusion of the bladder on the side of the missing kidney in 2 and a cyst of the ureter in 1 The condition of the ureter in the remaining 34 cases was not stated Hypertrophy of the other kidney was reported in the protocols of 29 cases In the remaining cases there was disease of the other kidney In 2 cases dystopia of the other kidney was found In 4 cases there was malformation of the genital system

Hypoplasia of the kidney was encountered in 50 (0 1 per cent) of the cases Twenty nine of the subjects were males The incidence of the condition was 0 08 per cent in males and 0 13 per cent in females More minute details regarding this anomaly (size arrangement of the blood vessels microscopic structure etc) could not be determined from the protocols

Congenital dystopia of the kidney occurred in 42 (0 08 per cent) of the cases In 2 it was bilateral This anomaly occurs with equal frequency in both sexes and on both sides Iliac dystopia was found in 5 of the cases reviewed pelvic dystopia in 11 cases and lumbar dystopia in 1 case In the protocols of the remaining 25 cases the site of the displacement was not given Diseases of the dystopic kidney were reported in 32 protocols (nephritis and degeneration in 27 hydronephrosis in 2 pyonephrosis in 1 atrophy in 1 and hypernephroma in 1)

Fused kidney was found in 66 cases (0 13 per cent) Its incidence in males was 0 13 per cent and its incidence in females 0 12 per cent In 57 cases it was bilateral (horseshoe kidney in 53 cases and shield shaped kidney in 4 cases) Disease of the fused kidney was found 37 times (inflammation and degeneration in 30 cases hæmorrhagic nephritis in 2 cases nephrolithiasis in 2 cases pyelonephritis in 2 cases and hypoplasia in 1 case)

Congenital cystic degeneration occurred in 246 cases (0 5 per cent) Polycystic degeneration was encountered in 192 cases In 176 (92 per cent) it was bilateral in 6 it occurred on the right side and in 10 it occurred on the left side Its incidence was 0 4 per cent in males and 0 3 per cent in females Simultaneous cystic degeneration of other organs (liver) was found in 39 cases (20 per cent) In 144 cases (75 per cent) there was disease of the heart or the blood vessels Solitary cysts were found in 24 cases (0 1 per cent) In 6 (11 per cent) they were bilateral

The remaining malformations were encountered in 4 cases (0 008 per cent) Among these there was 1 supernumerary kidney NEMILOV (Z)

Lindblom A F Hydronephrosis Caused by a Band Containing an Aberrant Renal Vessel Roentgen Diagnosis Verified at Operation (Hydronéphrose causée par une bride contenant un vaisseau rénal aberrant diagnostic radiographique vérification opératoire) *Acta radiol* 1928 ix 611

The author reports a case of hydronephrosis due to an aberrant renal vessel in which the direction of the vessel was determined roentgenographically before operation Of great aid in the diagnosis was a lateral roentgenogram of the renal pelvis which had been rendered opaque by contrast medium

Lindblom emphasizes the importance of always making a lateral roentgenogram when the diagnosis is doubtful In cases of horseshoe kidney for example a lateral view is of particular value as it shows the ureters in the shape of an arch in front of the horseshoe

Smith G G Fifty Cases of Renal Infection *England J Med* 1929 cc 867

This article deals with 50 cases selected from a series of 100 which were first diagnosed as pyelitis or pyelonephritis but later as merely renal infection The possible causes of the condition were infected teeth and tonsils and gastro intestinal disturbances such as colitis and duodenal ulcer Thirty five of the patients were females In 27 cases the condition was chronic

The typical acute pyelitis began with symptoms of cystitis—frequency burning and hæmaturia Two or three days later there was pain in the kidney region The temperature was elevated The treatment consisted in rest in bed free catharsis restriction of the diet the forcing of fluids alkalinization of the urine and daily lavage of the bladder with a 1 1 000 solution of mercurochrome

Of the 27 chronic cases the pyelograms were normal in 8 slightly abnormal in 9 and definitely abnormal in 6 The conditions in the last group

were (1) a double ureter and pelvis on the left side (2) megalo ureter on the left side (3) 8 oz hydronephrosis on the right side and destruction of the left kidney (4) obstruction at the uretero pelvic juncture on the left side (5) hydronephrosis and ulcerated calyx and (6) abscess of a calyx

In the chronic cases the treatment consisted in *hygienic measures the use of urinary antiseptics* such as methenamin methylene blue and coprokol the use of a bacteriophage and vaccines (useless) and lavage of the pelvis of the kidney with 1 per cent silver nitrate The only effective procedure was the pelvic lavage

HARRY W PLAGGEMEYER M D

Dourmashkin R L A Roentgen Ray Sign in the Diagnosis of Unilateral Renal Tuberculosis *J Urol* 1929 xxi 455

In a large percentage of cases of unilateral renal tuberculosis examined by the author obliteration of the pelvic curve of the ureter was revealed by a shadowgraph catheter on the affected side As the *pelvic curve of the ureter varies greatly in different* persons the sign was regarded as of value only when both ureters were outlined by opaque catheters and marked asymmetry was noted

The obliteration of the curve was attributed to shortening of the ureter by the tuberculous lesion It may be produced also in conditions other than tuberculosis Whenever it is observed a uretero pyelographic study should be made When the sign is noted in cases without apparent lesions it may be due to straightening out of the ureter by a stiff catheter acting as a splint The frequency with which it occurs in tuberculosis renders it of value in doubtful cases of this condition

JOHN G CHEETHAM M D

Legueu and Rico Tuberculosis of the Kidney Apparently Cured by Vaccination (Tuberculoses rénales prétendues guéries par la vaccination) *J d'urol méd et chir* 1929 xxvii 52

The authors report two cases of tuberculosis of the kidney apparently cured by vaccination

The first case was that of a man who was treated for some time with Vaudremer's vaccine Under this treatment the patient gained 12 kgm and the bacilli disappeared from the urine He might have been considered cured if the bladder had not remained *sensitive* and the urine cloudy The evidence of catheterization indicated that the right kidney was the site of the tuberculosis but there were no bacilli *other than colon* bacilli in its urine The authors *removed the right kidney* The ureter was found to be much altered and distended to the size of a thumb The kidney was bosselated Section of the kidney revealed *an obliterated calix in the median portion* above and below which there were clearly tuberculous lesions The lesions were ulcerocaseous and in full evolution According to these findings the tuberculosis had persisted in spite of the clinical appearance of cure

In the second case a diagnosis of bilateral renal tuberculosis was made when tubercle bacilli were found in the urine of both kidneys although the blood *nitrogen was 0 069 and the constant 0 135* Under treatment by vaccination the general condition showed marked improvement but the blood nitrogen increased to 0 49 mgm per 100 c cm the *constant decreased to 0 116* and catheterization of the ureters became impossible On exploration the right kidney and ureter were found to be normal Three weeks later the left kidney was removed After the operation the patient became apparently well In the removed kidney the tuberculosis was found to be at the height of its development but the characteristics seen in tuberculosis untreated by vaccination were absent The ureter was unaffected The kidney showed very marked vascular sclerosis, clear limitation of the caseous lesions by a fibrous *layer and numerous young tuberculous* lesions developing in the extracaseous zone

In the discussion of this report CHEVASSU called attention to the defense reaction in adolescents *He stated that very energetic cicatrization proces es are* capable of encysting a tuberculous lesion in such a way that other parts of the kidney remain free from the tuberculosis

LEGUEU in closing the discussion stated that he is interested at present not in the curability of the tuberculosis but in discovering whether the clinical appearance of cure is or is not based on a true anatomical cure

Pace

Lazarus J A Carbuncle of the Kidney Report of Two Cases *J Urol* 1929 xxi 353

Carbuncle of the kidney is an infection caused by a member of the staphylococcus group usually the staphylococcus aureus The lesion in the kidney has *the same gross appearance as* a carbuncle in other parts of the body It is usually a metastasis from an existing or a healed staphylococcic lesion such as a carbuncle of the neck furunculosis osteomyelitis or paronychia As a rule *it is produced by an organism* of attenuated virulence

The carbuncle must be differentiated from metastatic kidney abscesses which are usually multiple and sometimes *bilateral After its formation it may* (1) remain localized as a single inflammatory tumor (2) develop into a suppurative slough extend through the cortex and give rise to a secondary perinephritic abscess a course quite *characteristic* of the condition or (3) *penetrate* the renal pelvis and set up a pyelocystitis drain and finally heal While the last course is quite unusual the kidney should be explored in all cases of perinephritic abscess

The patient with a carbuncle of the kidney is usually quite ill with a high fever The fever may or may not be associated with chills As a rule *there* is pain over *the affected side* An outstanding feature of the condition is the absence of urinary *symptoms such as frequency* and dysuria The finding of a tender mass in the lumbar region is of great

diagnostic importance Urinalysis is frequently negative Although roentgenograms may show enlargement of the kidney outline on the affected side the pyelogram is usually far from characteristic The average interval between the initial lesion and the onset of renal symptoms is from two to five weeks

A review of the literature indicates that the treatment of choice is nephrectomy but Lazarus reports two cases in which recovery followed incision and drainage of the carbuncle JACOB S GROVE M D

Lamont D Benign Papilloma of the Renal Pelvis
Glasgow M J 1929 cxi 216

Papilloma of the renal pelvis is rare In the case reported by the author the pyelogram showed a marked filling defect in the pelvis of the kidney and dilatation and distortion of the calyces Nephrectomy was done by the lumbar route with the removal of about 6 in of the ureter A year later the patient was free from symptoms

Examination of the specimen showed the renal pelvis and part of the upper major calyx to be occupied by a shaggy mass The lowest limit of the growth was at the juncture of the ureter with the pelvis Histologically the tumor was a simple villous papilloma

The author believes that certain persons have a papilloma forming diathesis Suggestive of such a diathesis is the observation that persons with a papilloma of the urinary tract are apt to have also papillomata of the skin Skin tumors were found in ten cases seen recently by Lamont They occurred most frequently in the lower abdominal wall but in some instances were found also on the back and shoulders

JOHN P O'NEIL M D

Krogius A Forms of Solitary Renal Cysts Which May Be Attributed to Disturbances in Development of the Dual Anlagen of the Kidneys (Ueber einige Formen von solitaeren Nierenzysten deren Genese auf Stoerungen der dualistischen Nierenentwicklung zurueckgefuehrt werden kann)
Ztschr f chir Stockholm 1928 lxiv 432

The author reports the case of a man forty eight years old in whom a small tumor was discovered in the right side of the abdomen during an examination for life insurance in March 1927 In the middle of the following September rapid growth of the tumor began with fever When the patient entered the clinic on October 18 he presented an enormous tumor which filled up most of the abdominal cavity The neoplasm gave a fluid thrill and percussion with the patient in different positions demonstrated that it contained free gas The urine was normal No urine drained from the right ureter

At operation 10 liters of a thick chocolate colored foul smelling fluid were evacuated by puncture This fluid contained pus cells erythrocytes masses of detritus and cholesterin crystals and had a very foetid odor The medial wall of the cyst enclosed a rudimentary kidney with a thin ureter Extirpation of the cyst was followed by recovery

Microscopic examination of the quite thick cyst wall revealed renal elements—glomeruli and uriniferous tubules The innermost layer of the wall was formed by a granulation tissue without an epithelial covering Throughout the cyst wall there were inflammatory changes

The rudimentary kidney enclosed in the cyst wall showed a small renal pelvis with several protuberances only two of which communicated with the renal substance These suggested calyces with a papillary apex and contained straight uriniferous tubules

To explain the pathogenesis of this cyst the author assumes that in the course of the development of the kidney from the dual anlagen the connection between the anlage of the renal pelvis and the metanephrogenic tissue failed for the most part and that the large cystic cavity was formed in the metanephrogenic tissue rests later as the result of hæmorrhages transudation and finally an infection

Brandenstein and Hollaender have each reported a cyst which although they represented another anatomical form of cyst than that described by the author were probably similar in their pathogenesis For this rare type of renal cyst arising from disintegration within a metanephrogenic tissue rest which has failed to fuse with the anlage of the pelvis of the kidney the author suggests the name metanephrogenic cyst

Another group of solitary renal cysts which may be attributed to disturbances of the development of the kidney from its dual anlagen are the cysts communicating with the renal pelvis The author cites a typical case of this type which he reported twenty five years ago and reviews seven cases reported by others

Darget R Remote Result of Double Renal Decapsulation for Painful Nephritis with Oliguria (Résultat éloigné d une double décapsulation renale pour néphrite oligurique et douloureuse)
J d urol méd et chir 1929 xxvii 41

The patient whose case is reported had suffered from constant pain in both kidneys and had passed at most from 300 to 400 c cm of urine per day over a period of five years The urine contained no albumin The phenolphthalein elimination was 22 per cent The constant rose to 0 12 and the blood urea was 0 35 gm Bilateral decapsulation was followed by a gradual increase in the amount of urine to a maximum of 1 800 c cm in twenty four hours The usual daily quantity after the operation was at least 1 000 c cm

Three months after the operation the constant was 0 06 and the phenolphthalein elimination 69 per cent Two years after the decapsulation the patient was in satisfactory condition but requested operation for an eventration at the site of the scar At the second operation adhesions were found between the decapsulated kidneys and the neighboring fatty tissues but were very easily broken Several days

after the operation for hernia the amount of urine passed in twenty four hours was about 1 000 c cm and urinalysis showed 15 80 gm of urea 8 10 gm of chlorides no albumin and no cylinders The constant rose to 0 07 and the blood urea was 0 31 gm The phenolphthalein elimination was 50 per cent (probably higher as some of the urine was lost) The patient was therefore in practically the same condition as after the decapsulation performed three years previously PACE

Fowler O S Ureteral Diagnostic Methods and Their Interpretations *J Urol* 1929 xxi 465

The author is of the opinion that the methods in common use for the diagnosis of ureteral stricture are not entirely reliable There is still no general agreement among urologists as to what constitutes the normal or abnormal ureter The terms applied to stricture are being used loosely A condition which is diagnosed by some urologists as a stricture of the ureter with dilatation above it is regarded by others as a ureteral spasm with dilatation and by still others as a normal contraction with relaxation of the ureter A diagnosis of ureteral stricture based on the feel or the hang of the catheter or a single roentgenogram is based on inaccurate evidence

The ideal method of ureteral investigation would be X ray examination following the administration of a substance opaque to the X ray which would be excreted by the kidney By such a method it would be possible to determine the presence and site of an obstruction to the flow of urine without instrumental irritation This ideal has not been achieved but it can be approached by observation of the elimination of the opaque fluid by two methods In one method only one kidney is injected with the opaque medium at a time and after withdrawal of the catheter one or more roentgenograms are made Twenty minutes has been taken as an arbitrary time to determine positive retention but a normal kidney in any position in the body will empty itself in about half a minute In the second method the urine passed is studied for twenty four hours to determine when all of the opaque fluid has been eliminated from the urinary tract and the specimens are labeled with the time of their excretion Collargol can be seen only in a dilution of 1 12 000 and phenolsulphonephthalein in a dilution of 1 4 000 but sodium iodide can be identified chemically by the Carson method in a dilution of 1 10 000 The test is based on a violet color which is developed in chloroform after the addition of a special watery bromine reagent The author gives the formula for the solution and describes the technique of the iodide test

J EDWIN KIRKPATRICK, M D

Kreutzmann H A R Ureterography with the Dilating Catheter *J Urol* 1929 xxi 471

In order to obtain a roentgenogram of the entire injected ureter the author devised a catheter with a rubber bulb which can be distended to fit snugly in any ureteral orifice so that all reflux is prevented This catheter is being employed to work out the problem of the contour of the normal injected ureter Many variations have been seen in the twenty patients so far examined but the number of observations is still too small to warrant definite conclusions The constrictions and dilatations produced by the method do not correspond to the anatomical narrowings The closed tube effect produced in the ureter may have arrested peristalsis as a second roentgenogram made from five to eight minutes after the first one showed the constrictions and narrowings at the same points

The author believes that as more evidence is obtained from this type of investigation it will be necessary to form a new clinical conception of the normal ureter entirely different from the description now given by the anatomists

J EDWIN KIRKPATRICK M D

Seng M I Dilatation of the Ureters and Renal Pelves in Pregnancy Urological Study of the Normal Antepartum and Postpartum Woman. *J Urol* 1929 xxi 475

During pregnancy the urethra shares in a marked general congestion The bladder changes are found chiefly in the trigon but sometimes the bladder contour is distorted The postpartum bladder returns to normal in nine days In the author's studies no insufficiency of the ureterovesical valves could be demonstrated at any stage of pregnancy or the puerperium

The congestion of the trigon begins early and is progressive throughout gestation The trigon becomes broadened at the base and lengthened The ureteral orifices present no change except increased separation

The catheterized bladder urine shows a great increase in white blood cells which when not due to blood suggests infection Cultures made in the cases of apparently healthy pregnant and puerperal women show some form of coliform bacilli In 5 1 per cent of the cases studied by the author pyelitis was present It developed earliest three weeks after cystoscopic examination

The ureters always dilate The dilatation is demonstrable at about the eighth week and reaches its maximum after from twenty two to twenty four weeks The ureters return to normal shortly after delivery but remain relaxed

Marked hydronephrosis occurs much more frequently in multiparæ than primiparæ

Stasis which is an important factor in the development of pyelitis occurs on the right side more frequently than on the left side (4 3) It does not develop until the twentieth week It is more frequent occurs earlier and is more marked in multiparæ than primiparæ

The marked congestion of the uterus and adnexa of pregnancy has an obstructive influence and the dilatation and stasis are a physiological reaction to pressure within the bony pelvis

Infection is always present in pregnancy The majority of pregnant women escape pyelitis because of their immunity to this infection which is as yet little understood BENJAMIN F ROLLER M D

Hyman A An Ectopic Supernumerary Ureter Opening into the Vagina *Ann Surg* 1929 lxxxv 616

Hyman reports the case of a girl sixteen years of age who sought treatment for constant leakage of urine On examination of the vagina a small opening was found on the anterior vaginal wall just behind the external meatus Indigocarmine introduced into the bladder did not appear in the vagina vesicovaginal fistula was therefore ruled out The ectopic ureteral opening in the vagina could not be catheterized Cystoscopy revealed two normal ureteral orifices both of which could be catheterized readily

At operation a left kidney of normal size with an accessory ureter coming from the upper pole was found A large branch of the renal vein followed the ectopic ureter After ligation of the branch of the renal vein the upper pole of the kidney was resected The ectopic ureter was cut across far down in the pelvis and the stump carbolized

Recovery resulted within three weeks after the operation and there have been no postoperative disturbances HARRY W PLAGGEMEYER M D

Rathbun N P Scirrhous Carcinoma of the Ureter Late Metastasis from Carcinoma of the Breast *J Urol* 1929 xxi 507

Only thirty five cases of scirrhous carcinoma of the ureter have been reported and in some of them an operation had been performed for carcinoma in another part of the body Urography offers the best chance of making an early diagnosis There is usually intermittent hæmaturia with frequency and pain over the bladder The ureteral obstruction bleeds freely on manipulation of the catheter

The author reports the case of a man fifty eight years of age who was operated upon for scirrhous carcinoma of the breast After the operation the patient was well for three years but then developed intermittent hæmaturia associated with an ache in the loin The pyelogram showed dilatation of the left ureter with a filling defect A diagnosis of carcinoma was made and nephrectomy performed A carcinomatous nodule was found at the juncture of the pelvis and ureter The carcinoma was metastatic from the breast The patient recovered from the nephrectomy and was still well five months later BENJAMIN F ROLLER M D

Campbell M F Viscerosensory Phenomena in Acute Obstruction of the Upper Urinary Tract The Subinguinal Syndrome of Urinary Colic *J Am M Ass* 1929 xcii 1327

In acute obstruction of the upper urinary tract the triangle formed by the inner border of the sartorius muscle the inner border of the thigh and the inner half of Poupart s ligament is hypersensitive to coarse stimuli In the male there is elevation of the testicle with wrinkling of the scrotum on the affected side The testicle is usually sensitive In the female there is often tenderness of the labia Within the triangle a slight elevation of temperature erythema and dermographia are noted Thermal hyperæsthesia may be present

In forty cases with positive skin signs studied by the author positive gross obstruction was demonstrated by operation X ray examination or thorough urological examination In ten cases in which the skin signs were repeatedly negative urological examination or operation demonstrated that the lesion was not in the urinary tract

The skin signs usually disappear within seventy two hours after the colic or the establishment of drainage In persistent obstruction they may be present for several days Hyperæsthesia confined to the triangle and maximal at its center is due to pyeloureteral colic In mild cases it may be near the center while in severe cases it may extend slightly beyond the borders of the triangle Hyperæsthesia extending into the triangle or widely beyond its borders is negative for ureteral lesions CLAUDE D PICKRELL M D

BLADDER URETHRA AND PENIS

Sisk I R and Wear J B Spontaneous Rupture of the Urinary Bladder *J Urol* 1929 xxi 517

Spontaneous rupture of the bladder may result from obstruction to the outflow of urine with secondary changes in the bladder wall or from a primary change in the bladder wall The obstruction may be due to enlargement of the prostate stricture stone phimosis or interference with the nerve supply Primary changes in the bladder wall may be caused by carcinoma ulcers of various types or scar tissue The lesions may reach the bladder from adjacent organs

Since 1900 twenty cases of spontaneous rupture have been reported in the literature In four the rupture was extraperitoneal Geisinger states that intraperitoneal rupture is due to the arrangement of the musculature of the posterosuperior surface and the fact that the only covering is the peritoneum

Extraperitoneal rupture causes pain and swelling above the pubis Scantiness of the urine and the appearance of blood in the urine are significant There are no early signs of shock Blush and tenderness around the umbilicus may be present In intraperitoneal rupture there is usually a sharp abdominal pain with shock at the time of the rupture As a rule blood is found The late complications are peritonitis and uræmia The cystoscope is of little aid because the bladder will not distend when it is filled

Immediate operation is indicated In the extraperitoneal type of rupture the prognosis is very favorable whereas in the intraperitoneal type it is grave unless operation is done within thirty six hours

The authors report a case of extraperitoneal rupture secondary to urethral stricture in which operation was followed by good results

CLAUDE D PICKRELL M D

Fenelonov A Total Extirpation of the Bladder for Malignant Neoplasms (Zur Frage ueber totale Extirpation der Harnblase bei boesartigen Neubildungen) *Ao chir Arch* 1928 xiv 429

Partial resection of the bladder involved by a malignant neoplasm offers a very unfavorable prognosis Recurrence develops in at least 80 per cent of the cases On the other hand malignant bladder tumors sometimes remain isolated for a considerable length of time that is without forming metastases Therefore surgeons have for some time turned their attention to total extirpation of the bladder which appears to be the only radical method of treatment Multiple benign papillomata that cannot be attacked by electrocoagulation are also regarded as an indication for total cystectomy The contra indications are general weakness anæmia cachexia and pronounced secondary changes in the kidneys Slight renal infection is not a contra indication

The two stage cystectomy gives better results than the one stage operation In the first stage deviation of the urine is accomplished by implantation of the ureter into the large intestine by one of various methods and in the second stage the bladder is extirpated

A frequent and severe complication of this intervention is ascending infection of the kidney For the prevention and treatment of such infection autovaccination is indicated

The author's own experience with total cystectomy includes two cases The first was that of a woman twenty eight years of age who had a sarcoma of the bladder At the first operation the urine was diverted by implantation of the ureter into the sigmoid flexure according to the method of Bergl and Borcilius Forty-one days later complete removal of the bladder was done and was technically easy During the postoperative period there was an ascending infection of the kidney This was treated by autovaccination The patient recovered and was still well three years later

In the second case there was an extensive cancer of the uterus and bladder with the formation of a urinary fistula The operation including removal of the bladder the uterus and regional lymph nodes and implantation of the ureter into the large intestine according to the method of Tichov was done in one stage A double ureter was found on the right side Death occurred on the tenth day after operation from peritonitis Autopsy revealed insufficiency of the site of suture in the double ureter

ATIROV (Z)

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES TENDONS ETC

Kirklin B R and Weber H M A Roentgenological Consideration of Endothelial Myeloma *Am J Roentgenol* 1929 xxi 355

In the study of nine cases of endothelial myeloma at the Mayo Clinic which corresponded to those described by Ewing in 1922 the disease was found to be most common in young males especially those of asthenic habitus In the majority of the cases it was confined to the long tubular bones and the upper portions of those bones In none was there roentgenological evidence of involvement of more than one bone at the time of the patient s admission to the clinic Metastasis was a terminal event

Roentgenological evidence is found when there is diffuse absorption involving a variable but considerable portion of the shaft Under such conditions the involved bone has a mottled scarred appearance and becomes abnormally wide A few cases exhibit a startling apparently periosteal reaction in the soft tissues adjoining the involved portion of the shaft there is a wide gauzy structure the outer margins of which are apparently continuous with the periosteum below The strands are fairly dense apparently indicating considerable calcium deposit

Although other observers have called attention to the difficulty of distinguishing endothelial myeloma from osteogenic sarcoma the authors have not encountered a case of endothelial myeloma in which osteogenic sarcoma was suspected from the roentgen findings Osteomyelitis on the other hand may present roentgenological characteristics resembling those of myeloma—widening of the shaft absorption of bone closely resembling that of endothelial myeloma and the deposition of new bone is parallel with the shaft However in chronic inflammation of bone the reparative process is more marked and the destruction of bone more irregular than in endothelial myeloma

Moulonguet P Foreign Bodies in Joints *J Bone & Joint Surg* 1929 xi 353

Foreign bodies in joints may be divided into those arising from the synovial membrane the so called ecchondroses and those arising from the bone ends the osteophytes Foreign bodies due entirely to trauma are comparatively rare but trauma is an important factor in the production of pathological processes giving rise to foreign body formation In dry arthritis deformans foreign bodies form within the joints Loose bodies are characteristic of this form of arthritis Another condition leading to foreign body formation is osteochondritis dissecans

The treatment of foreign bodies in a joint is operative removal The prognosis is good except in cases in which there are pathological lesions in the joint which cannot be influenced by an operative procedure After the removal of a foreign body due to trauma the function of the joint is invariably normal A Gottlieb M D

Rogers L Macrodactylia in a Child Due to Neurofibromatosis (Elephantiasis Neuromatosa) *Brit J Surg* 1929 xvi 684

The author describes a symptomless congenital enlargement of the right thumb and index finger of a girl eight years of age The roentgen ray showed the process to be confined entirely to the soft tissues At operation elongated irregular tumors were removed from the volar surfaces of the involved fingers Microscopic examination of the tumors showed them to be neurofibromata with an unusual amount of adipose and connective tissue

Macrodactylia due to neurofibromatosis is very rare The author has been able to find only one other case (de Morgan s) in which the hand was affected by this type of elephantiasis Virchow differentiated this condition from other types of elephantiasis Mott called it pachydermatocele Thomson showed that not only the cutaneous nerves but also the skin and subcutaneous tissues take part in the process Michael L Mason M D

Panner H J A Case of Vertebra Plana Calvé (Ein Fall von Vertebra plana Calvé) *Hosp Tid* 1928 ii 1359

Panner has had the opportunity to re-examine a case of vertebra plana eight years after his first examination He states that the lesion is by no means trivial as in this instance healing did not take place over a period of nine years He therefore doubts that the four cases reported in the literature were really cured and suggests that the symptoms may have subsided for the reason that the patients were not obliged as was his patient to perform hard labor

Panner s patient a man now twenty two years old was first admitted to the hospital at the age of fourteen with the diagnosis of spondylitis One year before his admission he began to notice weakness in the back The weakness increased so that after a few months he was unable to work and finally he became unable to stand without a cane A few months before his admission to the hospital a slight gibbus developed and he began to experience pain in the lower thoracic spine

In the roentgenogram the body of the ninth thoracic vertebra was found to be disk shaped and very thin only a few millimeters high but otherwise

presented sharp contours The spaces between the neighboring vertebræ were of normal width except that they were greater posteriorly than anteriorly After a few weeks rest in bed the patient left the hospital cured

When he was admitted again eight years later he stated that he had remained well for four years after his discharge The pain in the back then recurred and he entered another hospital There the condition was diagnosed as recurring spondylitis and was treated by the application of a corset Since that time the patient has been unable to get along without the corset

Roentgen examination by the authors showed the gibbus to be more pronounced than before The vertebra had not increased in height Both adjacent vertebræ were somewhat wider and almost touched each other in front of the flattened vertebra Anterior to this spot there was a small shadow which was probably due to reparative osteophyte formation

PORT (Z)

Millar R E and Robertson G An Interesting Case of Spina Bifida Occulta in a Young Adult *Brit J Surg* 1929 xvi 681

The case reported was that of a man twenty two years of age who had been operated upon six years previously for a depressed fracture of the skull in the left parietal region A large extradural clot was removed At the same time the left knee was treated for what appeared to be a ruptured posterior cruciate ligament At the end of a few months the patient was able to return to work

He entered the hospital a second time because of attacks of weakness in the left leg associated with loss of sensation which had begun five months previously Although these attacks were transient the danger to the patient in his work as a miner was evident While he was sitting or lying quietly the left arm and leg jerked frequently and there were occasional short attacks of sensory disturbances in these members

Examination revealed evidences of sensory loss over the distribution of the left third and fourth lumbar nerves and a small spina bifida occulta of the third lumbar vertebra over which the skin was thin puckered and red Pressure over this area caused pain and jerking of the left leg and occasionally jerking of the left arm In the authors opinion the attacks are to be attributed not to the previous skull fracture but to momentary trauma to the cauda equina certain filaments of which were attached to the skin through the obliterated meningeal hernia The involvement of the arm in the process was difficult to explain but may have been of reflex origin

The bony defect was enlarged and the cord like process of extradural tissues divided close to the dura Except for thrombosis of the femoral vein recovery was satisfactory and several months after the operation it was apparently complete

MICHAEL L. MASON M D

Milch H and Lapidus P W Pneumococcus Spondylitis *J Bone & Joint Surg* 1929 xi 2

The authors report a case of inflammation of the third and fourth lumbar vertebræ with abscess formation which developed after pneumonia Aspirated material was negative for the tubercle bacillus and positive for the pneumococcus After aspiration a sinus developed and discharged periodically The sinus closed after two years

ELVEN J BERKHEISER M D

Kaestner H Rare Localizations of Osteomyelitis Spine Scapula (Seltener Lokalisationen der Osteomyelitis Wirbelsaeule Schulterblatt) *Arch f klin Chr* 1928 cliii 750

Up to the present time 103 cases of osteomyelitis of the spine have been recorded in the literature To these the author adds another

The syndrome of osteomyelitis of the spine is characterized chiefly by the development of an abscess of the soft tissues of the back Therefore in every case of suppurative involvement of the soft tissues of the back in which the etiology is not clear and especially in cases of retropharyngeal mediastinal retroperitoneal and psoas abscesses a spinal origin should be considered Very typical of spinal osteomyelitis is the simultaneous development of an abscess of the soft tissues of the back on both sides of the spine The nearer the process in the soft parts approaches the surface of the body and the sooner the focus of suppuration becomes accessible to adequate operative exposure the better the outlook for cure Accordingly a focus in a transverse process a vertebral arch or a spinous process has a better prognosis than a focus in the body of a vertebra In some cases disturbances of spinal cord function occur In many neuralgia develops later probably as the result of secondary deformity of the spinal canal

In a few cases with spinal symptoms laminectomy has given good results Conditions are not favorable for radical surgery therefore radical operation has been resorted to only occasionally and then only in cases with involvement of a spinous or transverse process In radical surgery there is danger of opening the spinal canal and spreading the infection further There is little danger of weakening the supportive function of the spine by the resection of the diseased portion of bone as osteomyelitis shows a marked tendency toward new bone formation Probably of great importance in the acute stage is thorough exposure of the suppurative process in the soft parts There should be no hesitation in making a large incision and on occasion also cutting through important muscle groups

In a comparison of tuberculous osteomyelitis of the spine with the acute form it appears that the acute process does not tend to spread so widely In the roentgenogram acute osteomyelitis may be mistaken for tuberculous spondylitis Characteristic of acute osteomyelitis is the appearance of dense foci in the vertebral bodies and of marginal irregularities which may become marked to a degree attained only

exceptionally even in spondylitis deformans This new bone formation gives such strength to the diseased section of the vertebral column that more marked deformities such as gibbus are prevented

Heinonen has collected 46 cases of osteomyelitis of the shoulder He does not consider total resection of the shoulder blade necessary in either the acute or the chronic stage In accordance with the anatomical structure of the scapula the osteomyelitic process is almost always found in the beginning in the spina scapulæ From there it spreads to the acromial and coracoid processes and the margins of the scapula and tends to rupture into the shoulder joint The syndrome in general is characterized by the formation of abscesses The abscesses occur first on the anterior surface of the scapula They then spread along the bony wall of the thorax and appear above or below the clavicle and in the axilla

The treatment consists in the most extensive exposure possible with opening of the abscesses In a case treated by the author excision of the scapula was done because the fever did not subside after thorough exposure of the abscess The excision of the bone should be performed as far as possible subperiosteally as on this method depends the more or less complete regeneration of the shoulder blade Lunz (Z)

Zemansky A P Jr and Lippmann R K The Importance of the Vessels in the Round Ligament to the Head of the Femur During the Period of Growth and Their Possible Relationship to Perthes Disease *Surg Gynec & Obst* 1929 xlviii 401

The authors report a study of the gross and microscopic variations in the femoral head of rabbits following section of the round ligament with consequent exclusion of the blood supply of the head of the femur which is derived from the vessels of this ligament They remind us of Schwartz theory that occlusion of the vessels coursing to the round ligament is responsible for the changes in the femoral head that are characteristic of Legg Calvé Perthes disease Anatomical studies of this blood supply and the various theories presented in the literature as to the relative importance of the three sources of blood nutrition to the femoral head are reviewed Kolodny demonstrated that the adolescent femoral head is supplied with blood vessel of three kinds (1) blood vessels coming from the diaphysis of the femur (2) epiphyseal blood vessels and (3) blood vessels carried by the ligamentum teres femoris

Work done up to the present time in exclusion of both the epiphyseal and the diaphyseal vessels is reviewed in some detail While anatomical studies have demonstrated definitely that in the adolescent the femoral head is nourished by the round ligament vessels the importance to the femur of this source of nutrition remains undetermined

In a series of dissections of rabbits made by the authors preliminary to their studies of the importance of the vessels of the round ligament to the head of the femur it was found that the developmental stage of the capital epiphysis in rabbits two weeks old corresponds approximately to that in children four years old It was found also that in the rabbit the femoral head unites with the shaft at about the age of seven weeks whereas in man this union occurs at the age of eighteen years Therefore in rabbits the span of life between the ages of two and seven weeks corresponds roughly to that between four and eighteen years in man the age period during which coxa plana occurs

By a series of arterial injections it was demonstrated that in rabbits of these ages the vascular arrangement is not dissimilar to that of the human femur at a corresponding age and that the blood supply from these vessels to the femoral head gradually diminishes when the epiphyses unite with the shaft

With these facts in mind the authors sectioned the ligamentum teres on one side in a series of eighteen rabbits two weeks old thereby obliterating the circulation through it to the femoral head Eleven of the rabbits were excluded from the final examination because of immediate or later local or general complications The specimens from the seven others were examined six nine twelve eighteen twenty seven and thirty six days after the operation The experiments were controlled by duplication of every procedure except section of the round ligament The changes found in the femoral head included anæmia signs of bone necrosis marrow necrosis signs of cessation of ossification gross deformity of the femoral head and coxa vara

Anæmia of the anterior portion and crest of the nucleus was observed first in the femoral heads of the two rabbits killed on the sixth day It was found also in all of the specimens examined subsequently

Pyknosis and failure of the bone cells to stain in the anæmic area were first observed in the nine day specimen The number of the bone cells thus affected increased in the later specimens until in the specimen removed twenty two days after the operation practically the entire anæmic area contained only empty cell lacunæ

Necrobiosis was first observed in the marrow cells of the specimen taken after six days Necrosis of the marrow stroma was first noted in the twenty two day specimen

Relatively small size of the bony nucleus was first apparent grossly in the eighteen day specimen The thickening of the surrounding cartilage and the increased proportion of unossified cartilage in the bony lamellæ of the nucleus could be seen microscopically in this specimen and in all specimens subsequently examined The diminution in the number of osteoblasts was first apparent in the nine day specimen In the last three specimens no osteoblasts were identifiable in the affected areas

Flattening and ridging of the weight bearing area of the femoral head were observed first in the nine day specimen Later specimens showed in addition

pitting and furrowing of the surface Microscopically the cartilage in this area was well stained and intact

Coxa vara was first apparent in the eighteen day specimen and was found in all of the specimens examined subsequently

The authors are of the opinion that in all of the specimens the changes described were associated with anæmia Their resemblance to those of infarction strongly suggested that they were due to interference with the circulation resulting from the operation The authors therefore believe that at least in rabbits the vessels of the round ligament are essential for the normal development of the femoral head and that interference with the circulation through them at an early age produces an anæmia of the weight bearing portion of the capital nucleus which in turn causes bone and marrow necrosis with secondary deforming changes They conclude also that as adolescence progresses the importance of the vessels of the round ligament gradually diminishes until the epiphysis unites with the shaft at which time in normal animals the vessels no longer carry blood into the femur and the nutrition of the crest is derived entirely from below

The authors regard it as reasonable to suppose that a similar replacement occurs in man at the same relative age period that is the period in which Legg Calvé Perthes disease develops They do not claim that the changes produced are entirely analogous to those of early coxa plana but emphasize their striking resemblance GEORGE C HENSEL M D

King M J and Towne G S Primary Giant Cell Tumor of the Patella *Arch Surg* 1929 xviii 892

Primary tumor of the patella is very rare The authors case was that of a man nineteen years of age who gave a history of a fall on the left knee two months previously Swelling and lameness developed soon after the fall Four weeks before the accident the patient had an attack of septic sore throat from which he made a complete recovery in two weeks Physical examination revealed considerable swelling and sensitiveness over the patella but was otherwise negative

The roentgenogram of the knee showed a rarefied condition of the lower two thirds of the patella with destruction of the periosteum and débris about and below the bone which was interpreted as a bone tumor probably a giant-cell sarcoma

At operation practically all but the shell of the patella was removed and the cavity was curetted and thoroughly packed with gauze The wound healed by granulation

Microscopic examination showed that in some sections the bulk of the tumor was composed of small and large giant cells

Two years after the operation the patient was well and was working every day with normal use of the left knee Roentgenograms made at that time showed apparent rarefaction in the lower half of the patella and an exostosis extending down the sheath from the lower margin There had undoubtedly been some local recurrence of the tumor but the author believes this will readily respond to curettage and cauterization H EARLE CONWELL M D

Boehm M The Embryological Origin of Club Foot *J Bone & Joint Surg* 1929 xi 229

The author studied the relationship of the foot and leg at various stages of embryological development He found that in the first and second months the plane of the leg and that of the foot are superimposed but at the end of the second month the plane of the foot rotates into supination so that at the beginning of the third month it is at right angles to the plane of the leg The foot then flexes cranially until at the middle of the third month it is perpendicular to the plane of the leg In the next stage it rotates toward pronation on its long axis and in the fourth month the foot and leg are in the relative position found in the adult

Dissections of club feet showed that marked club foot resembles an embryonic foot at the beginning of the second month and that the deformity is accompanied by under-development of the bones and muscles In a seven months fetus the tibial fascia exhibited an intermixture of muscle fibers connective tissue elastic fibers nerves and fat

Wilhelm has shown that there is a definite hypoplasia of the navicular and cuneiform bones which persists after complete correction of the deformity

Clinical manifestations support the conclusion that congenital club foot is the result not of a mechanical cause but of maldevelopment which can be traced to biological causes

The best explanation for the great majority of cases of congenital club foot is the theory of a primary endogenous disturbance of the embryo in the form of an arrest of development

FLVIN J BERKHEISER M D

Roberts P W Fifty Cases of Bursitis of the Foot *J Bone & Joint Surg* 1929 xi 338

Bursitis in certain areas of the foot may produce symptoms which simulate those of weak foot metatarsalgia calcaneal spur fracture of a sesamoid or arthritis of the ankle joint This condition is frequently overlooked because textbooks on anatomy describe only a few of the many constant bursæ and make no reference to the occurrence of adventitious bursæ occurring in a variety of situations in and about the joints of the foot

According to Clarkson a bursa is an enormously distended lymph space in which as the result of constant friction the cells of the connective tissue walls have assumed the function of secreting a fluid more viscid than lymph to act as an antifriction medium In the foot the development of bursæ is common because of the numerous moving parts compactly bound together and because of the stress and strain to which the foot is subjected It may explain the resistance of many foot conditions to

treatment aimed merely at restoration of static balance

The author discusses the anatomy symptoms and treatment of various types of bursæ

A GOTTLIEB M D

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Schwartz R P The Determination of the Pre Operative Indications for the Correction of Bone Deformities *J Bone & Joint Surg* 19 9 xi 385

Fixed angular or curved deformities of long bones require operative treatment To determine the kind and size of wedge to be removed at open operation the author uses the following novel method

Anteroposterior and lateral roentgenograms are taken and by means of tracing paper placed over the negative a line drawing is made of the deformity in each plane At the level of the deformity the paper is cut through at a right angle to the longitudinal axis of the haft The two halves are then pasted to a sheet of paper so as to restore the normal out line and the longitudinal axis to its normal position The amount of overlapping paper shows the size of the wedge of bone to be removed while the point of juncture determines the site of the removal of the wedge Instead of one wedge several wedges may be removed the site and size of each having been de termined pre operatively by the method described Although considerable bone may be removed at one or more sites the correction is accomplished without any shortening of the bone

The paper pattern is used to make a pattern of thin lead to be used at the time of operation The piece of sterilized lead is moulded around the diaph ysis at the predetermined level and the wedge to be removed is outlined on the bone with a sharp instrument Fixation of alignment after removal of the wedge is obtained by means of a kangaroo tendon passed through holes drilled through the lateral and medial cortex and crossed on the anterior surface

A GOTTLIEB M D

Scherb R The Functional Transposability In hibition and Reparation of Antagonistically Associated Muscles in Poliomyelitis Their Importance for Tendon Transplantation and Their Agreement with Biological Laws VI Myokinesigraphy (Funktionelle Umstellbarkeit Hemmung und Reparation antagonistisch gebund ener Muskel b Poliomyelitis ihre Bedeutung fuer die Sehnentr n plantation und ihre biologische Ge tzma gk t VI Mitteilung zur Myokinesi graphie) *Z k f orthop Ch r* 1928 L 470

In the sixth article of this series the author discus ses first the importance of the antagonistic association of muscle a regards their functional inhibition reparation and transposability after tendon trans plantation He states that the assumption that a ten lon can be transplanted at will and that if the operation is performed correctly from the anatomical and technical standpoints functional transposability is unlimited is incorrect This error may have been due to the fact that solely because of the removal of the inhibiting influence on motion a successful result may be obtained even when the transplant becomes permanently inactive Another reason for it is the fact that the capacity of a muscle to repair itself is often underrated The author presents curves to show how reparation of the muscles of the calf of the leg for example can be assisted by suit able apparatus He includes in his remarks some very interesting observations on the origin of contrac tures He states that the nature of muscle antagonism in general has been too little studied

The synergistic cooperation between individual muscles can be transformed into antagonism by a slight reduction of the action time of a group affected by poliomyelitis Under such circumstances removal of the antagonistic obstacle to action by tenoplasty sets the inhibited muscle free for repara tive processes The poliomyelitic hammer toe in paresis of the flexor hallucis brevis is cited as an example Transmetatarsal fixation of the extensor hallucis leads to complete recovery of the flexor group to restoration of function and to correction of the hammer toe

The second part of the article deals with the biological laws governing the conditions of function of the transplant The functional change in the transplant does not take place without the influence of the spinal cord A speculative explanation for it may be found in the hemicentral theory First there occurs an abatement of the old function then ir regularity in both functions and finally extinction of the old function and increasing steadiness of the new function From these observations conclusions may be drawn that as to the advisability of per forming a tendon transplantation may be drawn

ERLACHER (Z)

Chandler F A Trisacral Fusion An Operative Technique Facilitating the Combined Anky losis of the Lumbosacral Joints of the Spine and Both Sacro Iliac Joints *Surg Gynec & Obst* 1929 xlviii 501

It is generally agreed that the sacro iliac and lumbo sacral joints are true joints and as such are subject to the lesions common to other true joints The lower lumbar and sacral regions are the sites of many and varied osseous developmental anomalies as well as widely varying mechanical components of the sup porting structures of the vertebral column There is still much confusion as to the syndromes of lesions of the lumbosacral juncture and lesions of the sacro iliac joints Pathological conditions at the lumbo sacral juncture and the sacro iliac joints frequently co exist and their separate evaluation is very dif ficult if not impossible Relief of symptoms may often be obtained from conservative measures but in many cases operative measures are indicated Stabilizing operations of the lumbosacral and sacro iliac joints have a distinct place among the thera peutic measures directed toward the relief of the

pitting and furrowing of the surface Microscopically the cartilage in this area was well stained and intact

Cova vera was first apparent in the eighteen-day specimen and was found in all of the specimens examined subsequently

The authors are of the opinion that in all of the specimens the changes described were associated with anæmia Their resemblance to those of infarction strongly suggested that they were due to interference with the circulation resulting from the operation The authors therefore believe that at least in rabbits the vessels of the round ligament are essential for the normal development of the femoral head and that interference with the circulation through them at an early age produces an anæmia of the weight bearing portion of the capital nucleus which in turn causes bone and marrow necrosis with secondary deforming changes They conclude also *that as adolescence progresses the importance of the* vessels of the round ligament gradually diminishes until the epiphysis unites with the shaft at which time in normal animal the vessels no longer carry blood into the femur and the nutrition of the crest is derived entirely from below

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According to Clarkson a bursa is an enormously distended lymph space in which as the result of constant friction the cell of the connective tissue walls have assumed the function of secreting a fluid more viscid than lymph to act as an antifriction medium In the foot the development of bursæ is common because of the numerous moving parts *compactly bound together* and because of the stress and strain to which the foot is subjected It may explain the resistance of many foot conditions to

questionable There can be little question that in cases of incomplete fracture or fracture of the outer third of the clavicle without displacement such dressings are more of a nuisance than they are worth both to the surgeon and the patient The purpose of the supporting type of dressing advocated by the author is to make the patient comfortable To determine its value as compared with that of the reducing dressings Lester studied the results in 422 cases which were treated with both reducing and supporting dressings in the Roosevelt Hospital New York in the period between 1914 and 1927

The sling and binder or Velpeau bandage is not intended to reduce the fracture or hold it reduced It supports the weight of the arm and keeps it from moving thereby eliminating the pain and discomfort In cases in which such a dressing is used healing takes place as quickly as in those with other dressings and the deformity is no greater

The supportive dressing recommended by the author is a sling which extends beyond the elbow and is drawn snugly so that it lifts and supports the arm The ends are crossed over the back carried around under the axillæ and tied over the sternum The weight of the arm is borne by the shoulders and not by the back of the neck A simple swathe around the arm and thorax keeps the arm from moving except within narrow limits After a week or ten days the swathe may be dispensed with and the patient may wear the dressing inside the clothes which act as a binder After from two weeks to eighteen days the sling may be worn outside the clothes and after from three to four weeks it may be discarded altogether When the sling is worn outside the clothes it may be knotted behind the neck

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GEORGE C HENSEL, M D

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The treatment of the condition is surgical At operation the nerve is found pulled upon by fibrous tissue bands running from the fragment of the epicondyle to its original site of attachment In most instances it has been forced forward and has become embedded in the fat adjacent to the joint Gross damage to the nerve has not been found

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The fractured arm is laid with the flexor surface downward across the wedge so that the lower end of the upper fragment rests directly on the wedge The upper fragment is held firmly on the wedge by the surgeon s left hand The lower fragment is gripped by the surgeon s right hand with the thumb on top and the ball of the thumb directly over the prominence formed on the dorsum by the displaced lower fragment The lower fragment is then forced downward forward and toward the ulnar side The amount of force required varies in different cases but is always considerable At the end of the maneuver described the backward tilt of the lower fragment is corrected by a sharp forward flexion movement

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Massage and movements of the fingers are usually begun a day or two after the reduction and movements of the wrist joint after from ten days to two weeks

ANTHONY F SAVA M D

symptoms arising from the pelvic girdle and lower *pine*

The author describes an operative technique for combined stabilization of the sacro iliac and lumbo sacral joints

The patient is placed prone upon the operating table with a small sand bag under the lower part of the abdomen to reduce the lumbar lordosis A transverse crescentic incision is made along the posterior margin of the iliac crest crossing the mid line 1 in below the middle of the posterosuperior spine of the ilia The subcutaneous tissues are di vided along the same line until the gluteal and sacrospinalis fascia are exposed The convex flap is then dissected from the fascia in the midline only sufficiently to expose the tip of the spinous proces es of the lower lumbar vertebræ With proper retrac tion this can be accomplished without wide detach ment of the skin flap The margins of the concave flap are freed at their lateral ends good exposure of the posterosuperior spines of the ilia being thereby obtained

The lumbosacral fusion stage of the operation closely follows the technique of the Hibbs spinal fusion operation Subperiosteal exposure of the spinous processes of the fourth and fifth lumbar vertebræ is obtained through a vertical incision Bone bridges are then chiseled from the adjacent margins of the exposed laminæ and are interlocked to span the interlaminal spaces The spinous proc esses are partially amputated but to a less extent than is done by Hibbs The fragments of the spinous processes are broken down to supplement the laminar bridges on either side The midline incision is closed with two temporary sutures approximating the fascia and periosteum

In the sacro iliac fusion the attachments of the gluteal and sacrospinalis fascia are freed to expose the posterosuperior spine of the ilium The postero superior spine of the ilium is then split parallel with its flat surfaces and the outer portion hinged by periosteum and gluteus maximus muscle at the level of the posterior margins of the sacro iliac joint is reflected laterally The inner portion of the ilium is excised and after division of the portions of the posterior sacro iliac ligaments is removed from the wound and placed in normal saline solution for later use

The periosteum of the posterior surface of the sacrum is then elevated toward the midline and the cortex of the sacrum is roughened by means of a small gouge The posterior margin of the cartilage of the sacro iliac joint presenting in the depth of the wound is thoroughly curetted Chips of cancellous ilium are placed across the sacro iliac joint posteri orly the reflected bone flap is turned against the roughened surface of the sacrum and the perios teum of the iliac bone flap and the sacrum is sutured The iliospinalis and gluteal fasciæ are then closed securely The opposite sacro iliac joint is attacked in a similar manner The excised portion of ilium not used for chip grafts is split into two portions and placed through the midline incision so that it lies adjacent to the stumps of the spinous processes The midline and lateral incisions are closed and the skin incisions sutured with interrupted sutures of chromic catgut A dressing and pad are then applied and covered with oiled silk

The attached cancellous bone flap of ilium mak es an ideal graft as it replaces the central portion of the posterior sacro iliac ligament Increased stability of the sacro iliac joint which theoretically should be present after division of the posterior iliac spine could not be demonstrated in the fresh cadaver by direct manual pressure or manipulation of the femur

The trisacral fusion operation makes possible the bony consolidation of the ilia sacrum and lower lumbar vertebræ It has been found most practical to fuse the last two lumbar vertebræ to the sacrum but the extent of the fusion must be determined by the requirements of the particular case

GEORGE C HENSEL, M D

FRACTURES AND DISLOCATIONS

Chlumsky V Habitual Subluxation of the Head (Habituelle Subluxation des Kopfes) *Zentralbl f Chir* 1929 p 69

The author reports with roentgenograms a case of habitual subluxation of the head which he believes is the only one of its kind to be recorded The patient was a girl sixteen years of age who five years pre viously while leaning out of a window fell to the street 6 ft below Loss of consciousness for a while was followed by severe pain in the neck and back The head was displaced forward at a marked angle and there was no anteropo terior mobility of the neck Later the patient was able to bring her head up to the correct position herself and to move it normally but the subluxation recurred and after a while became habitual

When the head was in the normal position the roentgen findings were normal but when the sub luxation was present the atlas with its posterior arch was tipped somewhat upward and the two lateral portions of the upper cervical articulation and the foramen occipitale magnum were displaced forward The uninjured axis was covered in the roentgenogram by the descending ramus of the mandible The condition was ultimately cured by the wearing of a head brace (Schanz dressing)

SONNTAG (7)

Lester C W The Treatment of Fractures of the Clavicle *Ann Surg* 1929 lxxxix 6 0

Most of the dressings used in the treatment of fractures of the clavicle are designed to reduce the fragments or to hold them in alignment yet it is generally admitted that reduction is almost impos sible to maintain and that a certain amount of defor mity is to be expected The deformity does not interfere with the function of the arm and tends to disappear in time Because of these facts the value of complicated uncomfortable dressings is

questionable There can be little question that in cases of incomplete fracture or fracture of the outer third of the clavicle without displacement such dressings are more of a nuisance than they are worth both to the surgeon and the patient The purpose of the supporting type of dressing advocated by the author is to make the patient comfortable To determine its value as compared with that of the reducing dressings Lester studied the results in 422 cases which were treated with both reducing and supporting dressings in the Roosevelt Hospital New York in the period between 1914 and 1927

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ANTHONY F SAVA M D

Fiason E L Fractures of the Fingers *Im J Surg* 1929 vi 501

Finger fractures constitute only 3 or 4 per cent of all fractures They often result in deformity and disability out of all proportion to the injury

In order to facilitate the grasping of objects the proximal and middle phalanges are concave on their palmar aspect This fact must be considered in the reduction of fractures

Finger fractures are usually produced by direct violence but indirect violence may also be the cause as in fracture of the proximal end of a phalanx from a blow on the end of the finger The base of the *proximal thumb phalanx is usually broken by a side* force against the distal end Such a fracture is known as a sparring fracture or Bennett s fracture

In the diagnosis which is seldom difficult with the aid of the roentgen ray care must be taken to differentiate the finger fracture from a dislocation epiphyseal separation sesamoid bone and (at the distal end of the last phalanx) an extra epiphysis

Most fractures of the fingers can be reduced by manipulation and traction Crushed fractures of the distal end of the last phalanx may require moulding of the fragments to prevent unsightly deformity If there is palmar angulation the fragments may be given a more normal alignment by binding the finger around a roller band or a wooden ball in flexion Occasionally in multiple or badly comminuted fractures continuous extension with a banjo traction splint may be necessary The sparring or Bennett fracture at the base of the thumb is best held *in a light spica cast Simple fractures unite in from* two to four weeks without excessive callus Compound fractures must be thoroughly cleaned out If this is not possible they should be left wide open

WILLIAM A CLARK M D

Dudková H Compression Fractures of the Vertebræ (Kompressive Wirbelbrueche) *Casop lék česk* 1928 lxvii 901

Compression fractures of single vertebræ may be caused not only by trauma in the longitudinal axis of the spinal column *as in a fall on the head* the feet or the buttocks but also by a false step a sudden turning of the trunk or sudden incoordinated demands on the muscles of the back Radiating pain in the back pain when pressure is exerted on the head or shoulders *and pain on bending of the* trunk after trauma are strongly suggestive of injury to the spine and call for roentgen examination

In the author s twenty-eight cases of compression fracture of the spine the lesion was isolated. In none was it associated with injury to the cord

In the treatment of such fractures rest in bed and extension for about six weeks are necessary There after an orthopedic corset should be worn for a year

KINDL (Z)

Ott T *Our Experiences as Regards the Cause and Course of Isolated Fractures of the Transverse Processes of the Lumbar Spine* (Unsere Erfahrungen ueber die *Entstehung und den Verlauf der* isolierten Querfortsatzfrakturen der Lendenwirbelsaeule) *Beitr z klin Chir* 1928 cxliv 605

Ott reports twenty four cases of fracture of transverse processes of the lumbar spine In all the *fracture* was due to direct force In most cases the cause was the falling of masses of rock or coal on the lumbar region when the trunk was in a fixed or *flexed position The third transverse process* which is most exposed was fractured in seventeen cases the second and fourth processes in eleven cases each and the first and fifth in eight cases each In eight cases one in six cases two in three cases three in two cases four and in two cases five transverse processes were fractured

The clinical findings included skin abrasions a *hæmatoma in the erector spinæ* a peculiar impressibility of the musculature and pain in the origin of the psoas muscle on pressure over the abdomen *Flexing and twisting of the trunk* is more painful toward the normal side than toward the injured side and raising the extended leg on the injured side is very painful In one of the cases reported Kuemmell s disease developed as a sequela. The dislocation of the fragments depend mainly on the number of transverse processes involved

The end result is favorable In the cases reported *there* was at first a 10 per cent disability but after about six months full working ability even for heavy mining work had been regained BAUER (Z)

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Burian F The Results of War Injuries of the Blood Vessels (Folgen der Kriegsverletzungen der Gefaesse) *Casop lek Cesk* 1928 ii 1493 1536 1574 1614 1649 1680 1717 1750

This article is based on ninety four cases of blood vessel injuries sustained in the two Balkan wars and the World War and treated surgically The common femoral was injured in 4 4 per cent the superficial femoral in 17 7 per cent and the deep femoral in 12 2 per cent Seventy two and five tenths per cent of the injuries were due to bullets 16 2 per cent to grenade fragments and 8 7 per cent to shrapnel

An important sign of injury of a large vessel is extensive suffusion developing within twenty four hours and corresponding to the course of the vessel and often that of its collaterals

The mildest form of vascular trauma is vascular contusion—contusion of the adventitia This renders the vessel segment contracted and pulseless a condition sometimes described as vasoconstrictor spasm An injury of more severe character is associated with damage to the media and intima and occasionally is followed by thrombosis Such injuries often give rise to peripheral emboli with results varying from partial muscular necrosis to gangrene of an entire extremity In the majority of cases contusion of the large arterial trunks with thrombosis is followed by permanent disturbances of function of varying degree with muscular atrophy hypotonia intermittent claudication trophic disturbances cyanosis numbness or ulcers

Arterial wound with penetrating defects which do not cause severe primary external bleeding give rise to diffuse hæmatomata which predispose to infection and increase the danger of secondary hæmorrhage An operation was necessitated by secondary hæmorrhage in thirty six of the cases reviewed The hæmorrhage was caused by loosening of the thrombus in the vessel wall (sixteen cases) rupture of the hæmatoma (thirteen cases) the erosion of large vessels by a shell fragment (three cases) the bleeding of small r vessels (two cases) or isolated venous injuries (two cases) Of twenty nine patients in this group nineteen recovered and ten (34 4 per cent) died By far the greatest number of the injuries in this group also involved the large thigh vessels and the mortality from secondary hæmorrhage from the superficial or deep thigh vessels was surprisingly high (50 per cent) In most of the cases ligation of the vessels was necessary In four cases suture was possible and gave good results

Aneurism may develop years after a vascular injury As a rule they result from the encapsulation of diffuse hæmatomata In the cases reviewed fifteen arterial aneurisms were operated upon In six cases suture was possible but in the remainder ligation of the vessel was necessary Partial gangrene of the foot developed only once Suturing was possible also in six of nineteen cases of arteriovenous aneurism Circular suture was done in four longitudinal suture in one and transverse suture in one The results were good In several cases ligation was followed by trophic disturbances of varying degrees Such disturbances are usually more severe the more central the ligation of the vessel Many of the patients treated by ligation had considerable difficulty the rest of their lives In large aneurisms ligation is essential as extensive resection of the vessel cannot be avoided and reunion of the ends is impossible

KINDL (Z)

Albright F The Syndrome Produced by an Aneurism at or Near the Junction of the Internal Carotid Artery and the Circle of Willis *Bull Johns Hopkins Hosp* Balt 1929 xliv 215

The author describes the syndrome produced by aneurism at or near the juncture of the internal carotid artery and the circle of Willis The symptoms in two cases in which a diagnosis of rupture of the aneurism was made and the autopsy findings in one case are described and thirty cases with localizing symptoms before death are reviewed from the literature The entire series falls into five etiological groups—mycotic traumatic syphilitic arteriosclerotic and congenital

The symptoms may be divided into two main subgroups (1) neighborhood symptoms due to involvement of structures in this region and (2) symptoms arising from leakage of blood into the subarachnoid space The neighborhood symptoms except in cases of the larger aneurisms usually become manifest only after partial rupture of the aneurism and the formation of a false aneurism The most common neighborhood symptoms are internal and external paralysis of the third nerve and involvement of the first branch of the fifth nerve The third nerve was involved in every case in the series reviewed In one of the cases relief of pain by obliteration of the common carotid artery in the neck was a helpful diagnostic sign In one case the internal carotid artery was ligated in the neck without success The possibility of relieving the condition by surgery is discussed but no conclusions are reached

JACOB M MORA M D

Holman E Arteriovenous Aneurism *California & West Med* 1929 xxx 307

The formation of an arteriovenous fistula is accompanied by a marked fall in the blood pressure and an increase in the pulse rate To compensate for these

changes an increase in the total blood volume occurs

In the presence of the larger fistulæ dilatation of the heart and of the artery and vein proximal to the fistula invariably occur

The extent of the blood volume increase and of the dilatation of the heart depends upon the size of the fistula The dilatation may proceed to complete myocardial failure

Arteriovenous fistulæ should therefore be eliminated preferably by quadruple ligation of the artery and vein and excision of the fistula

The elimination of a fistula may precipitate cardiac decompensation incident to overdistention of an already dilated heart To prevent this excessive dilatation venesection may be necessary in the course of the operation

After the operation measures must be taken to relieve the myocardial strain imposed by the increase in the diastolic pressure accompanying the elimination of the fistula JOHN J MALONEY M D

De Takáts G Quint H Tillotson D I and Crittenden P J The Impairment of Circulation in the Varicose Extremity *Arch Surg* 1929 xviii 671

The treatment for varicose veins should be directed toward the reduction of venous pressure to relieve stagnation and increase capillary activity

The venous pressure may be reduced to some extent by elastic support Simple ligation of the saphenous vein will decrease it temporarily The most effective procedure is surgical removal of the affected segments or obliteration of the vein by injection

Arteriosclerotic and diabetic gangrene and thrombo angiitis obliterans are often associated with venous dilatation and inflammation Recognition of these conditions is of great importance in the treatment and prognosis

WILLIAM E SHACKLETON M D

Kilbourne N J : The Treatment of Varicose Veins of the Legs Considerations of Safety *J Am M Ass* 1929 xcii 1320

In the treatment of varicose veins of the leg physicians are trying to choose between the method of operative excision and the method of injection without knowing the exact risk involved by either

The author sought to determine the risk of operation by sending a questionnaire to a large number of large American hospitals As the result of this inquiry he collected 4 607 cases treated by excision with 8 deaths from embolism and 10 deaths due to unknown causes The mortality of the excision method in this large series was therefore 0 4 per cent

The mortality of the injection method cannot be determined with the same exactness because the treatment is ambulatory McPheeters collected approximately 53 000 cases treated by injection with 11 deaths

A critical evaluation of the factors involved shows that the comparative risk of the two methods is probably even more favorable to the injection method than these figures indicate The incidence of recurrence after the injection method is only one-sixth as high as the incidence of recurrence after the operative method HOWARD A MCKNIGHT M D

McGregor and Simson Thrombo Angiitis Obliterans with Special Reference to a Case Involving the Spermatic Vessels *Brit J Surg* 1929 xvii 539

The case reported suggested tuberculous epididymitis but there were radiating pains which are usually absent in tuberculous epididymitis and there was considerable thickening of the upper end of the vas whereas in tuberculous epididymitis the thickening of the vas begins at the testicular end The thickening was found to be due to thickened veins and thrombosed vessels adherent to the vas

The histological changes found in the spermatic vessels were those of thrombo angiitis obliterans. The sequence of events is acute inflammatory infiltration of the coats of the vessels and surrounding supporting tissues occlusive thrombosis the formation of purulent foci in the peripheral part of the clot replacement of the leucocytic areas by giant cells and finally organization and canalization of the obturating mass associated with the matting together of neighboring arteries veins and nerves by inflammatory fibrosis

The histological findings support the theory of Buerger that thrombo angiitis obliterans begins as an acute inflammation The cause of the inflammation has not yet been found SAMUEL KAHN M D

Zeller O Presenile Gangrene of the Extremities Raynaud s Disease and Erythromelalgia (Die praesenile Gangraen der Extremitaeten Raynaudsche Krankheit und Erythromelalgie) *Jahresk f aerztl Fortbild* 1928 xix 36

Presenile gangrene of the extremities is a thrombo angiitis obliterans (Buerger) with inflammatory changes in all of the layers of the vessel wall and thrombus formation Another form of the same condition is the juvenile arteriosclerosis with sclerosis of the media and intima and thrombus organization The Jewish race is particularly predisposed to these diseases Changes similar to those in the arteries are found also in the veins Spasms of the vasa vasorum are thought to be an etiological factor (Goecke) Males are affected almost exclusively By some investigators trauma is believed to be an exciting factor In the author s opinion frequent exposure to wet over-exertion psychic excitement alcohol and nicotin are of importance in the etiology Nicotin increases the excretion of adrenalin from the adrenals thereby increasing the blood pressure Von Oppel believes that presenile gangrene may be considered a late result of a hyperadrenalinæmia but this view is opposed especially by Russian writers

Raynaud s disease occurs most frequently in women between the ages of eighteen and twenty

five years of age There is asphyxia usually of a finger which is similar to frost bite but there is no thrombosis Raynaud thought the cause was a spasm of the arteries due to irritation of the sympathetic such as was ascribed by von Oppel to adrenalinæmia

Erythromelalgia may also lead to gangrene It occurs more frequently in males than in females and begins usually in the feet The characteristic phenomena are swelling redness and pain which are less marked when the limb is in the horizontal position and are aggravated by the vertical position especially in hot weather The application of cold gives relief whereas in presenile gangrene heat gives relief When the foot affected by erythromelalgia is in a dependent position dilatation of the veins and strong pulsation of the pedal arteries are noted In suprarenal arteriosclerosis there is a slowly developing hyperæmia in the weak collateral branches

In presenile gangrene and Raynaud's disease adrenalectomy has given good immediate and late results Periarterial sympathectomy has given good immediate results in all three conditions but they have been only temporary The medical treatment should include prohibition of smoking the avoidance of injuries rest in bed foot hygiene light treatment baths and the internal administration of iodine When gangrene appears the demarcation should be awaited and amputation should be done very economically as the affection usually attacks several limbs MEYER (Z)

BLOOD TRANSFUSION

Denissowa Ssuscewskaja P Essential Thrombopænia and the Influence of the Menstrual Cycle on Its Course (Zur Frage ueber die essentielle Thrombopenie und ueber den Einfluss des menstruellen Zyklus auf ihren Verlauf) *Z ntralbl f Gynaek* 1928 p 2535

In the author's opinion the case reported in this article indicates that the hæmorrhagic diathesis is dependent upon the endocrine sex glands The patient a woman forty seven years of age complained of the frequent appearance of large blue flecks over her entire body frequent hæmorrhages from the uterus and bleeding from the gums During her six pregnancies in a period of twenty two years the hæmorrhagic spots entirely disappeared The patient was the only member of her family so affected

The blood findings were hæmoglobin 76 per cent erythrocytes 4 000 000 leucocytes 7 000 (62 per cent neutrophils 23 per cent lymphocytes and 14 per cent monocytes) thrombocytes 88 000 (Fonio) and blood sugar 0 102 per cent The Wassermann test was negative The bleeding time was from thirteen to fifteen minutes Coagulation was normal During the menstrual periods the thrombocytes decreased to as low as 30 000 but after menstruation returned to the previous number

BOCK (G)

Pijper A An Improved Diffraction Method for Pernicious and Other Anæmias *Brit M J* 1929 1 635

Pijper describes a method of determining the average size of blood cells by diffraction When a beam of white light is sent through a blood smear it is broken up i e diffracted by the blood cells into the spectral colors From the distribution of the colors, the mean diameter the degree and quality of anisocytosis and the degree of poikilocytosis of the red cells can be determined The theory technique and advantages of the method are given in detail

MANUEL E LICHTENSTEIN M D

Murphy W P and Powers J H The Value of Liver in the Treatment of Anæmia Due to Hæmorrhage *Surg Gynec & Obst* 1929 xlviii 480

Seventeen patients with anæmia due to hæmorrhage were treated with large amounts of beef or calves liver together with a diet containing green vegetables fruit and red muscle meat Six of them received in addition large doses of iron Seven control patients received neither iron nor a special diet The control patients showed very little change in the concentration of either hæmoglobin or red blood corpuscles during a period of two weeks whereas fourteen of the seventeen patients treated with liver or liver and iron showed a definite increase in both hæmoglobin and red blood corpuscles The patients treated with liver and iron had a greater increase in hæmoglobin than those treated with liver alone All except two of the patients receiving liver who were followed for from one to four months continued to show improvement comparable with that observed during the first two weeks In the two exceptions the hæmoglobin remained persistently low

From these observations it appears justifiable to conclude that liver together with a dietary regimen stimulates the formation of hæmoglobin and red corpuscles in anæmia due to chronic hæmorrhage and that the formation of hæmoglobin is still further increased by the addition to the diet of large amounts of iron SAMUEL KAHN M D

LYMPH GLANDS AND LYMPHATIC VESSELS

Gilbert R The Treatment of Malignant Granulomatosis by Penetrating Roentgen Therapy (Le traitement de la granulomatose maligne par la roentgentherapie penetrante) *Acta radiol* 1928 ix 552

The author recommends a methodical treatment the success of which depends not only on biological and physical factors but also on clinical and anatomical factors

After reviewing the effects of the roentgen rays on granulomatous glandular and non glandular tissues he describes the method which he has used in fifteen cases since 1922 and reports the results obtained He states that roentgen therapy is the treatment of choice for malignant granulomatosis

but that the method by which the irradiation is given is of great importance The varied clinical course and anatomical localization of the disease must be borne in mind and the clinical diagnosis confirmed by biopsy To obtain long remissions he gives the following rules

1 Apply to this condition in which deep lesions are very frequent a technique of deep roentgen therapy with well selected rays similar to that which is applied to neoplastic tissue even though in granulomatosis the tumors are very probably of an *inflammatory nature*

2 Cause to be absorbed by the diseased tissues from the first treatment a dose of the roentgen rays sufficient to destroy them (in the first series of irradiations a dose averaging from 1 000 to 1 200 R Solomon as *determined by our present methods of* measuring)

3 Divide the dose for each area into several treatments given over a period of from ten to fifteen days The entire treatment should not exceed one month

4 So far as the general condition and the condition of the blood permit irradiate in the first treatment not only the visible and palpable localizations of the disease but also the regions which though normal in appearance are known to be frequently involved by extension of *the condition* Remember that the action of irradiation on granulomatous tissue is essentially local and direct

5 Keep the patient under observation but in order to prevent a premature condition of radioresistance and to conserve the chances of an ultimately successful result refrain from repeating the irradiation therapy until the first signs of a recurrence are noted

6 Supplement the irradiation therapy with *medical treatment according to the requirements of* the particular case As a preventive in the course of remissions prescribe arsenic but do not give irradiation therapy

The results obtained by the author are very *superior to those obtained with only moderately* penetrating irradiation poorly selected irradiation and fractional and spaced doses They are characterized by absence of recurrence for 5 years in relatively benign cases and by long remissions (averaging *from one and one half to two years) in the majority* of other cases remissions which sometimes can be renewed by further irradiation During these long periods of apparent cure the patients usually recover full capacity for work

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Kime E N Electrosurgery *New England J Med* 1929 cc 532

Electrosurgery is a valuable therapeutic aid in certain conditions such as premalignant and malignant neoplasms and the various infective granulomata Its proper use requires good surgical judgment operative skill and a sound and practical knowledge of the scientific principles underlying the technique of application of the various types of damped and undamped oscillatory high frequency currents for electrothermic destruction of pathological processes

Electrodesiccation and fulguration are similar in that they are both obtained from uniterminally administered currents of very high tension very high frequency and very low amperage In the former the needle is placed almost or quite in contact with the tissue to be destroyed whereas in the latter the supposedly destructive spark is made to jump an air gap and the usual result is carbonization of the surface which insulates the underlying neoplastic cells and prevents their destruction Electrodesiccation is differentiated from electrocoagulation in that the former is uniterminally applied and the latter is biterminally applied Electrodesiccation is indicated for premalignant lesions and lesions of low malignancy especially those located about the eyelids face nose or ears or in any other area where scar tissue must be prevented

The advantages of electrosurgery are as follows

1 The operation is quickly performed since little time is lost in obtaining hæmostasis

2 Most operations in which this method is indicated may be done under hyoscin morphine eactin analgesia and local or regional anæsthesia

3 Postoperative pain and shock are either absent or relatively slight

4 The operation causes little blood loss and less acidosis

5 The desiccated wounds heal without a scar

The operative field must be absolutely dry Preliminary ligation of the main vessel may be necessary If secondary hæmorrhage occurs it is usually due not to infection but to partial destruction of a large vessel When local anæsthesia is used the current density should be less as otherwise the extent of the coagulation may exceed the desired limit ANTHONY F SAVA M D

Lawrence R D Postoperative Acidosis *Proc R Soc Med Lond* 1929 xxii 747

A slight but true acidosis involving a temporary decrease in the alkali reserve and an increase in the urinary acidity occurs after all inhalation anæsthesias Ketonuria is present in from 20 to 80 per cent of cases Local anæsthesias also produce these conditions but less frequently

The acidosis seems to depend on complex factors but mainly on tissue anoxæmia caused by the disturbance of normal respiration and circulation during operative procedures In the normal person the acidosis is very slight and transient and causes no symptoms It cannot be entirely prevented by the previous administration of sodium bicarbonate glucose or insulin but a high carbohydrate diet before operation decreases the tendency toward its development When acidosis is present before operation it becomes more marked afterward and requires treatment to prevent complications

The preoperative and postoperative treatment of acidosis and ketosis in normal persons and diabetics is discussed SAMUEL KAHN M D

Feriz H The Resorbable Tampon (Ueber den resorbierbaren Tampon) *Zentralbl f Chir* 1928 p 3138

Tamponade with gauze strips which is still so often necessary is an unphysiological procedure Attempts to obtain hæmostasis with absorbable substances finally led to the use of vivocoll (Vogel) Vivocoll consists of centrifugalized sterile beef blood plasma 96 3 parts a 1 10 solution of sodium citrate 3 5 parts and an antiseptic derivative of chinolin 0 2 parts The solution is made ready for use (activation of the blood-coagulating ferments) by warming it and adding calcium chloride solution On injection the fluid coagulates at once When it is poured into the wound coagulation requires two or three minutes

Vivocoll adheres only to the wound surface and not to intact epithelium Experiments carried out on animals to determine its effect on the tissues and on wound healing its absorbability and the danger of infection and anaphylaxis associated with its use showed that when it was injected subcutaneously it was absorbed as quickly as blood After one week it could no longer be found Epithelial defects treated with vivocoll healed more quickly and with less reaction than control wounds covered with boric ointment Connective tissue organization was found to take place in vivocoll tamponade After initial round cell infiltration young connective tissue cells became visible at the margins and capillaries were seen Finally a small vascular connective tissue nodule was formed In tests of the regenerative power of vivocoll in muscle defects no positive results were obtained Signs of anaphylaxis were not observed and because of the slow absorption of the protein substances anaphylaxis was not feared No

infection occurred from the vivocoll Vivocoll could not be used as a culture medium for bacteria staphylococci streptococci and colon bacilli would not grow on it

Vivocoll tamponade may be employed with drainage (old abscesses nephrectomy in cases with suppuration etc) Tuberculous abscesses may be treated with iodoform vivocoll Simultaneous roentgen irradiation is not advisable Vivocoll is of value chiefly for hæmostasis It is of aid especially in cases of goiter brain tumor and hydrocele In prostatectomy bleeding may be controlled by filling the wound cavity with vivocoll and at the same time injecting vivocoll into the surrounding tissues It is necessary to stop the bleeding by direct pressure or temporary gauze tamponade until the vivocoll coagulates

In conclusion the author states that vivocoll tamponade is better than gauze strips although its use is still somewhat complicated and requires practice WILLIAMS (Z)

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Burnet F M Bacteriophage in Its Clinical Aspects *Med J Australia* 1929 i 406

Burnet reviews briefly the development of our knowledge of the bacteriophage

The evidence so far acquired indicates that in diseases which are essentially or largely septicæmic the bacteriophage plays little part and can be of therapeutic use only indirectly but that in infections practically limited to the contents and lining of the alimentary canal such as bacillary dysentery food poisoning by the salmonella group and cholera a bacteriophage active against the pathogen usually develops and may be a factor determining recovery In the latter group the administration of active bacteriophage by mouth is a rational therapeutic procedure Although there is no unanimity of opinion on the point this treatment seems to have been responsible for some extremely successful results

JACOB M MORA M D

Oudard Guichard and Le Bourgo Immunotransfusion in Surgical Infections (L'immunotransfusion dans les infections chirurgicales) *Bull et mém Soc nat de chir* 1928 liv 1331

The authors report five cases of immunotransfusion The conditions treated were streptococcus pyæmia following burns mastoiditis and a cervical streptococcus phlegmon acute otitis media mastoiditis and streptococcus pyæmia purulent otitis media and purulent streptococcus pyæmia and cervical cellulitis and streptococcus septicæmia

Wright's technique was used Anti staphylococcus vaccine was given in three cases and anti streptococcus vaccine in two From six to ten hours after the vaccination a half liter of blood was taken from a suitable donor defibrinated beaten for from twelve to fifteen minutes with an ordinary fork and then injected slowly into the patient's vein the injection taking from twenty five to thirty minutes A half liter of blood after defibrination yields about 350 gm of fluid From 300 to 500 c cm of defibrinated blood was injected

No serious symptoms were seen in the course of the transfusion in any of the cases but in two cases quite violent chills began half an hour after the transfusion and lasted for about twenty minutes There were none of the serious symptoms that are sometimes seen after the transfusion of citrated or whole blood After the transfusion the blood pressure rose Within a few hours there was a fall in the temperature if not complete apyrexia and improvement in the general condition was noted In two cases the cure was certainly brought about by the transfusion In two others the transfusion contributed to the recovery One patient died the transfusion having been given too late

The authors did not make the careful study of the opsonic index of the donor and patient before or after the transfusion that is recommended by Wright They conclude that while the number of cases was too few to permit a comparison between this and other methods of immunotransfusion they at least show the clinical value of immunotransfusion in serious cases of infection that have proved resistant to other methods of treatment

AUDREY G MORGAN M D

ANÆSTHESIA

Cahen P Regional Anaesthesia of the Limbs Induced by the Venous Route (L'anesthésie régionale des membres par voie veineuse) *J de ch* 1929 xxxiii 34

In the technique described a solution of novocain is introduced into the veins of the segment of the limb to be operated upon Two conditions are necessary the blood must be excluded from the operative zone by means of an Esmarch bandage and the novocain solution must remain in the veins throughout the operation A tourniquet must be kept at the upper and lower limits of the zone to be anæsthetized The novocain is injected against the blood current

The anæsthesia lasts about 15 minutes after release of the upper tourniquet and these minutes are employed to obtain hæmostasis All vessel of importance are sought and tied In the closure of the wound catgut is placed in the aponeurosis and silkworm gut in the skin but the sutures are not tied immediately After the upper tourniquet is loosened the small vessels are tied Before the cannula is removed the turncock is opened and the rest of the solution pressed out The other tourniquets are then loosened the cannula is withdrawn and the vein is tied with one of the strands of catgut inserted at the beginning

The literature reports more than 600 cases in which this procedure has been employed The author has used it in 30 cases In 2 it failed because

of an error in the technique In the others the anæsthesia was perfect The operations included amputations trephinations and osteosyntheses The chief error consists in not tightening the upper tourniquet sufficiently The method is particularly suitable to the upper limb especially the forearm

PAGE

Herzberg M H Pharmacological Experiments with Avertin (Pharmakologische Versuche mit Avertin) *Deutsche med Wchnschr* 1928 1 044

In experiments with avertin carried out on rabbits it was found that from 0 3 to 0 4 gm per kilogram of body weight of the avertin must be administered rectally to induce a deep narcosis When from 0 4 to 0 5 gm was given most of the animals died Therefore the difference between the narcotizing and lethal dose in the rabbit is slight Even when therapeutic doses were given there was a marked drop in the blood pressure and the breathing became slower and more superficial Since according to Killian the sensibility of the respiratory center to carbon dioxide stimulation is reduced to insensibility in avertin narcosis caffein sodium benzoate (0 1 to 0 4 gm per kilogram of body weight) was given intravenously in 20 per cent solution As a result the respiration increased in frequency and depth and the pulse pressure and blood pressure rose

Up to the present time no clinical experiences with the intravenous administration of caffein have been recorded In experiments on animals caffein given intravenously interrupted avertin narcosis but it was impossible to increase the lethal dose with caffein In rabbits avertin Ringer s solution caused a local irritation of the conjunctiva which after discontinuance of the avertin persisted as an exudative conjunctivitis In the rectal mucosa of rabbits no histopathological changes could be demonstrated after one induction of avertin narcosis

TOELKEN (Z)

Harttung Pernocton Twilight Sleep (Beitrag zum Pernocton Daemmerschlaf) *Arch f klin Chir* 1928 cliii 664

Harttung reviews fifty two cases in which pernocton twilight sleep was induced One patient died two showed marked excitation nine suffered from nausea and retching without vomiting six had severe vomiting lasting for as long as a half hour and one suffered from headache and exhaustion Pulmonary complications were no less frequent than without the use of pernocton but there was no cardiac renal or liver injury The use of morphine should be avoided In several instances the injection of morphine seemed to provoke excitement states

The narcosis lasted from thirty five minutes to almost nine hours Its duration cannot be predicted In the cases in which it lasted longest the use of oxygen failed to cause awakening

Amnesia developed in fifty of the fifty two cases In the later cases the administration of veronal on the preceding evening was omitted as unnecessary

The one death was that of a man of thirty four years who was suffering from osteomyelitis and pernephritis Both lesions were exposed The kidney was found functionally damaged In addition to 5 c cm of pernocton it was necessary to use 190 gm of ether Morphine and veronal had both been given before the induction of the anæsthesia The author attributes the death to cumulative poisoning He reviews the two fatal cases reported by von Haberer and Bumm He believes that the death in von Haberer s case was due definitely to the anæsthesia but that the death reported by Bumm may have been due to phenolphthalein In more than 6 000 pernocton narcoses there have been 4 or 5 deaths

The dosage of pernocton must be regulated very carefully Complete pernocton narcosis is best avoided The dose should not exceed 9 mgm per kilogram of body weight and should be given slowly Other sedatives are contra indicated Pernocton is simply a supplement to ether

RUGE (Z)

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RADIUM

Berven E and Heyman J Report on Cases Radiologically Treated at Radiumhemmet Stockholm *Acta radiol* 1928 ix 497

This article reports upon the results of radium treatment in over 500 lesions All cases treated at Radiumhemmet during the period from 1921 to 1927 are included There are four tables Table 1 gives the data on the cases treated with radium in the period from 1921 to 1927 and Table 2 the data for cases treated with electro-endothermy and desiccation in the year 1927 Table 3 deals with the cases of cancer of the cervix of the uterus treated in the period from 1914 to 1927 and Table 4 with those of cancer of the body of the uterus treated in the period from 1913 to 1927

In all 14 608 persons applied for treatment 5 592 were not suitable for treatment 906 abandoned treatment 251 have been treated only recently 1 225 were not benefited 4 100 were rendered symptom free 160 were symptom free at the time of death from other causes 139 were symptom free for a time and then developed a recurrence and were re treated without benefit 734 were benefited and 209 were benefited temporarily their condition there after becoming hopeless

The results were as follows

	Cas	R md d ympt m f	B fit d be	N t fit l
T b l gland	4	66	69	4
C bæm g m	9	8	6	3
Ch ac t ill tis	496	394	9	9
C nc f th l p	4		3	7
Ca f th t gu	45	4		7
C of th vul	6		4	3
M t r th	3			
My m	5			9
Eczem	68	46		0
V r c	87	3	4	9
C f th k	487	4 9	7	4
C nc f th y l l		4	3	1
Hyp thyr d m	35	6	6	
B se low disease	5	6	9	
Canc f th b t	6	5	4	6

Of the patients with cancer of the cervix of the uterus 38 per cent were free from symptoms after one year 29 per cent after two years 26 per cent after three years 23 per cent after four years 22 per cent after five years 20 per cent after six years 19 per cent after seven years 17 per cent after eight years 16 per cent after nine years and 12 per cent after ten years Of those with cancer of the body of the uterus 70 per cent were free from symptoms after one year 69 per cent after two years 64 per cent after three years 58 per cent after four years 55 per cent after five years 55 per cent after six years 58 per cent after seven years 44 per cent after eight years 29 per cent after nine years and 22 per cent after ten years A JAMES BARKIN M D

Carling F R Radium Teletherapy Experience with a Temporary Bomb *B J M J* 1919 1 845

The excellent results of radium treatment of primary growths and accessible glandular metastases by needles and seeds are generally recognized but some mechanism must be provided for the treatment of inaccessible lesions This problem is being met by radium teletherapy

The chances of recovery are best when the intensity is suitably determined The interstitial placing of needles or seeds provides in an economical manner an intense irradiation in the growth as compared with the surrounding tissues Surface application soon developed into the use of radium at a short distance from the skin which is elementary teletherapy The extension of the treatment to deep lesions resulted in an increase in the distance from the radium to the skin to at first 5 cm and finally to a maximum of 16 cm The greater the distance the less the destructive intensity in the skin and intervening body layers as compared with the required intensity in the lesion

The standard needle intensity is defined as that intensity which is produced at the surface of a sphere with a diameter of 1 cm when 1 mgm of radium is placed at its center In teletherapy one half of this intensity produces the same reactions if it is available at the greatest depth Computations show that a lesion 2 in in diameter and 3 in long will require from 30 to 40 mgm of radium with the needle technique which at a skin distance of 16 cm 2 600 mgm would be necessary to maintain that intensity

Relative depth intensity is defined as the relation between the intensity at a depth and that at the skin It has been found that for a depth of 10 cm the relative depth dose of 25 per cent may be employed satisfactorily

The use of radium at a distance from the skin from multiple points of entrance known as cross firing has been developed by Sluys and Cheval of Brussels and Regaud of Paris Regaud and Cheval employ four ports of entry by which they deliver a relative depth dose of unity at a depth of 10 cm Cheval obtains a relative depth intensity of 15 to 30 per cent if he treats two patients simultaneously Regaud obtains 25 per cent and Sluys obtains 28 per cent The distances used are 16 cm 10 cm and 8 cm respectively Sluys using 1½ gm of radium obtains 46 per cent of the relative needle intensity Regaud using 4 gm of radium obtains 125 per cent and Cheval using 4 gm of radium obtains 84 per cent If these results are reduced to bombs of 1 gm each the percentages are Sluys 36 Regaud 31 and Cheval 21

A carefully designed bomb is of considerable advantage on the score of economy The design should eliminate waste and in addition should give (1) an intensity at a depth of 10 cm of at least half the standard needle intensity (2) a relative depth intensity as high as 5 per cent (3) a relative depth dose not less than 100 per cent (4) a filtration not less than the equivalent of 1 mm of platinum and (5) protection for the workers Ordinarily 3 in of lead is sufficient for protection while the bomb is being adjusted or the radium may be removed to a distance

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Desjardins A U The *Status of Radiology in America* *J Am M Ass* 1929 xciii 1035

The sensation in scientific circles and also among laymen caused by Roentgen's announcement in 1895 of the discovery of the X rays resulted in a rapid and widespread utilization of the new rays for medical purposes by persons inadequately trained for such work This seriously hampered the sound development of roentgenology as a branch of medical practice The equally revolutionary discovery of radium by Becquerel and the Curies opened another avenue in the same field but radium is so costly that only a few institutions and individuals could afford to purchase it Its cost therefore prevented a popularization of its use comparable with that of the roentgen rays whereas the constant simplification of construction and manipulation of the apparatus required to generate roentgen rays with a tremendous extension of the credit system permitted an increasing number of physicians to equip themselves for work in roentgenology Not only has the sale of roentgen ray apparatus been extended to quacks and outlaws of the borderland but many legitimate practitioners not qualified for such work are using roentgen procedures in diagnosis and treatment

As a result of its distorted and abnormal growth the radiological situation in America today shows many weaknesses Some physicians are devoting their time exclusively to diagnostic roentgenology some to both diagnostic and therapeutic radiology some to radium therapy and some to therapeutic radiology while only a minority have become proficient in general radiology This state of affairs in private practice is reflected in a corresponding lack of sound organization even in the best hospitals clinics and other institutions for the care of the sick The inevitable consequence is that with the exception of a small number of exceptionally qualified experts the general level of the specialty is not high and workers in this field may often be heard to bewail the faint respect with which their efforts are viewed by their fellow physicians in other specialties

A defect of American medical practice in contrast with that of European countries is that in America a physician may pose as a specialist despite inadequate instruction and meager experience The medical profession is still suffering from the delusion that roentgenology differs little from photography and many internists and surgeons who have acquired a smattering of radiological knowledge attempt to carry out for themselves the radiological procedures involved in the care of their patients It is a common practice of hospitals and private physicians to employ not a professional specialist in radiology but a non professional technician who often is expected only to make roentgenograms the interpretation of which is reserved for the professional employer or members of the hospital staff but whose opinion is sometimes accepted or acted on by the physicians who employ him It is obvious that physicians working under such conditions can not realize or give their patients the advantage of the full possibilities of medical radiology The only way of stopping this tendency is to raise the level of radiology and the ability of the radiologist

The factors responsible for the existing conditions are chiefly (1) the rapid development of medical radiology and failure to organize its various phases along sound lines (2) the lack of thorough fundamental training in radiology and (3) the unfortunate loss of contact with clinical medicine by which many radiologists are handicapped There are only one or two schools in America in which anything approaching a thorough postgraduate course of instruction in radiology is given These various factors have tended to discourage able young physicians from electing radiology as a career

In the attempt to improve the present situation the first and most important step must be to take measures to attract to the field of radiology young physicians of the highest caliber To make radiology more attractive to able and ambitious men the artificial divisions of radiology which have acted as inhibitory influences must be removed a career in radiology must be made as interesting and satisfactory from every point of view as a career in any other phase of medicine Medical institutions should be impelled to re-organize their separate services of diagnostic roentgenology and therapeutic radiology into departments of general radiology under competent directors Instruction in radiology must be improved and hospital authorities must recognize the necessity for securing radiologists more substantially trained in the subject as well as possessing sound knowledge of clinical medicine Radiology should be brought into more intimate relation to clinical medicine and surgery and this relation adjusted so that the radiologist or roentgenologist may be kept in close contact with clinical problems The Council on Medical Education and Hospitals can do much to ameliorate present conditions by establishing and enforcing minimal standards of training in radiology and in the practice of radiology and its divisions and by requiring proper working conditions Many problems cannot be dealt with arbitrarily If the radiologist and roentgenologist will cooperate with the Council and undertake to remedy by themselves the defects which they alone can remedy radiology may soon be recognized as the peer of other medical specialties

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO LOGICAL CONDITIONS

Harris R I Fatal Burn Death Due to Hæmorr hage Into the Suprarenal Capsule and to Hæmorrhage From a Duodenal Ulcer *Brit J Surg* 1929 xvi 677

Harris reports an extensive burn in a female child three and one half years old which resulted in death from hæmorrhage into the suprarenal capsule and hæmorrhage from a duodenal ulcer

He states that the toxæmia of severe burns is unlike that found in any other traumatic condition The presence of the dead epithelium excites a re action in the underlying living tissues which ultimately results in complete separation of the dead from the living cells This separation is brought about by digestion of the dead cells along the line of contact by ferments present in the living cells The toxæmia is due to protein metabolites formed in the process of digestion

The usual signs of toxæmia due to a burn are fever (up to 105 degrees F) vomiting drowsiness and convulsions These are apparently due to the action of the toxin upon the central nervous sytem However the action of the toxin is not limited to the central nervous system it produces changes in nearly all of the tissues of the body postmortem evidences of which are to be found in the form of widely distributed focal necroses and ecchymoses The postmortem picture closely resembles that produced by diphtheria toxin The central nervous system is apparently most susceptible to the action of the toxin and symptoms referable to interference with its function usually dominate the clinical picture

Ulceration of the duodenum resulting from a burn is unusual The mechanism of the production of the ulcers and their relationship to burns are still under dispute It seems reasonable to assume that the action of the toxin produces focal necrosis and hæmorrhage in the duodenal mucosa and that these areas are transformed into ulcers by the digestive action of the pancreatic juice

Suprarenal hæmorrhage resulting from burns has been recognized even less frequently than duodenal ulceration From the research of Weiskotten how ever it appears likely that hæmorrhages and focal necro es in the suprarenals are the most common and most characteristic postmortem findings in cases of fatal burns MERLE R HOOV M D

Perez R T Jr Epithelioma of the Extremities *Am J S g* 1929 1 545

The author reports thirty seven cases of epithe lioma of the extremities Such epitheliomata are usually of the squamous-cell type and in spite of their histological malignancy are relatively benign clinically The prognosis is fairly good There is little tendency toward involvement of the regional lymph nodes The average duration of life is from eight to nine years whereas in cases of histologically similar lip tumors it is only from one to two years

Etiologically epitheliomata of the extremities fall into three groups (1) those occurring on the basis of chronic inflammation (ulcers fistulæ scars lupus) (2) those associated with warts or moles and (3) those occurring on apparently normal skin

The occurrence of an epithelioma after a single trauma is rare Epitheliomata occur more commonly on the leg than on the arm half of those occurring on the lower extremity develop on the lower leg while 60 per cent of those occurring on the upper extremity develop on the back of the hand They develop more frequently in males than in females and in 80 per cent of the cases appear after the fiftieth year of age

The best treatment is adequate surgical removal

JACOB M MORA M D

Tansey J and Utz L Chorionepithelioma in a Male *Med J Australia* 1929 1 419

Tansey and Utz describe a lung tumor in a man twenty six years of age the microscopical features of which were in all respects identical with those observed in uterine chorionic epithelioma They suggest that the origin of such tumors may be chorionic rests and chorionic cells which gained entrance to the lung through the fetal circulation (in utero) just as chorionic cells have been proved to enter the maternal circulation during pregnancy and lodge in the pulmonary capillaries of the mother

JACOB M MORA M D

Tureen L L and Loeb L The Age Incidence of Tumors in Mice and Its Inheritance *J Cancer Research* 1929 xiii 1

The age incidence of tumors in mice is determined by inheritance but the hereditary factors are active only when they are associated with other factors es pecially the internal secretion of the ovary

There is a definite relationship between the tumor rate and the age at which the tumors occur In strains of mice with a high tumor incidence tumors appear as a rule at an early age whereas in strains with a low tumor rate they appear relatively late in life

These conclusions were confirmed by an analysis of the inheritance of tumor rate and tumor age in hybrid strains

In general the tumor age curve shows a typical shape After a maximum has been reached at a cer tain period of life a decline sets in as age advances

It is difficult to get the patient properly arranged for the treatment Patients cannot remain in one position for more than two hours at a time twice a day In preparing for the treatment a transparent cross section as obtained from an atlas modified to suit the individual case and with an iso-intensity chart of the gamma ray field from the bomb is placed beneath the section so as to cover the estimated position of the growth By this means the required dose is estimated as regards the necessary intensity the relative depth intensity and the relative depth dose In the use of 1 gm of radium a distance from the skin of 6 cm has been found most satisfactory

It is economical to treat two cases simultaneously The four point sources of the permanent bomb are at the corners of a square and the radiation from each is restricted to a cone of the desired shape by means of lead screens Each involves a separate area of skin at entry but all of them cover the depth point The distance of 6 cm can be increased or may be reduced to 4 cm The normal relative depth intensity at a depth of 10 cm being 25 per cent a relative depth dose of 100 per cent can be obtained when four portals of entry are employed The relative needle intensity at a depth of 10 cm would then be one half the standard needle intensity

The two patients may be treated one on each side of the square by placing them parallel with each other on different level and adjusting the bomb between them To protect the attendant and to save time the necessary adjustments may be made with a dummy bomb the real bomb being then substituted for the dummy

A James Larkin M D

MISCELLANEOUS

Friedman M H Local Diathermy Its Influence on Kidney Secretion and on Intramuscular and Subcutaneous Absorption *J Am M Ass* 1920 xcii 1648

In experiments on dogs the authors noted no effect of diathermy on the rate of absorption of subcutaneously injected epinephrin or phenolsulphonephthalein unless œdema was produced When œdema developed the absorption seemed to be distinctly retarded The rate of absorption of bismuth salts and the rate of urine secretion were uninfluenced Gertrude Beard

Healy and Cutler found that in cancer of the uterus of the higher grades of malignancy radiation treatment offers a better prognosis than surgical treatment resulting in a cure in 46 per cent of the cases Epithelial neoplasms of the nasopharynx are all sensitive except those of the squamous cell types

Tumor which are most actively growing and cellular are most radiosensitive and may be completely destroyed by external irradiation Very vascular and bulky papillary carcinomata react readily to radiation by necrosis brought about largely by the cutting off of their blood supply

The location of a tumor as regards the character of the tissues surrounding it is a factor of importance in the response to radiation Tumors in vascular and cellular tissues respond readily while tumors in fibrous and non vascular tissues react poorly Epidermoid carcinoma invading periosteum or scar tissue and tumors in a bed of fat do not react well whereas malignancy of a similar type in lymph nodes gives a very favorable response Other fields favoring a good reaction to radiation are the *cellular vascular tissues of the tongue* tonsils and uterine mucosa Tumors arising from adult squamous cells are radioresistant while those arising from stratified epithelium exhibit sensitivity

In a study of 300 cases of oral carcinoma it was found that the squamous carcinoma is generally more resistant than carcinomata of other types Transitional cell carcinoma arising from the base of the tongue pyriform sinuses tonsils the floor of the mouth the pharyngeal wall the nasal mucosa or the sinuses is very radiosensitive A group of tumors called adenoid cystic carcinomata which are found in the mouth and are very vascular are highly radiosensitive The lympho epithelioma a tumor of nasopharyngeal origin is very radiosensitive and is classified as a transitional cell carcinoma

In summarizing the author says that radiotherapy has called for recognition of several types of epidermoid carcinoma which previously were regarded as not of much significance The treatment is definitely aided by the systematic grouping of such carcinomata according to the degree of potential malignancy and consequently the degree of radiosensitivity The radiosensitivity of these tumors is referable to many causes chief among which are anaplasia vascularity desmoplastic reaction rate of growth and tissue of origin Radiosensitive tumors which respond poorly to surgery may often be controlled by external radiation alone or combined with surgery A JAMES LARKIN M D

GENERAL BACTERIAL PROTOZOAN AND PARASITIC INFECTIONS

Nitu P C The Treatment of Erysipelas with Scarlet Fever Serum (Die Behandlung des Erysipels mit dem Scharlachserum) *Cluj m d* 1928 ix 430

Twenty five cases of erysipelas were treated with scarlet fever serum In all the fever was above 38 degrees C The face was involved in twenty cases the arm in three cases and the leg in one case In one case the infection was generalized

Early treatment is important The injections were given intramuscularly in doses of from 25 to 75 c cm daily In several cases there was an immediate critical fall of the fever with recovery after a single injection of 25 c cm In the others two three or five injections were necessary a total dose of from 75 to 175 c cm being given In ten cases (40 per cent) there was no result These were cases in which the erysipelas had its origin in an infected wound or which came for treatment after the fourth day One case in which there was an abscess of the lower lid and in other case with a phlegmon were uninfluenced Serum disease occurred in five (20 per cent) of the cases Several of the case histories are reported

WOHLGEMUTH (*J*)

DUCTLESS GLANDS

Laffont A The Grafting of Fetal Endocrine Glands (La greffe endocrinofoetale) *Bull Soc d obst et de gynéc de Par* 1928 xvii 830

It is evident that the endocrine glands of the fetus must be particularly powerful as the organism could not grow for a period of twenty years without great activity on the part of these glands In his first attempt at practical use of the endocrine glands of the fetus the author removed a fragment of suprarenal thymus hypophysis and thyroid and two ovaries from a fetus that had died in the course of difficult labor and grafted them into a woman thirty years of age who was suffering from the symptoms of a premature menopause resulting from hysterectomy and ovariectomy Within a few days after the grafting the flashes of heat malaise and headache ceased and the patient became able to sleep Within a week she lost almost 3 kgm Her weight then remained constant for several weeks Two months after the grafting she had gained another kilogram but in the succeeding six months there was no further gain

This case suggests the possible value of the endocrine glands not only of full term infants but also of younger fetuses and embryos In the grafting of such glands every precaution must be taken to avoid transmitting syphilis and tuberculosis

AUDREY G MORGAN M D

Judina N The Treatment of Parathyroprival Tetany by Blood Transfusion (Die Behandlung der parathyreopriven Tetanie mit Bluttransfusion) *Med biol* 1928 i 61

In twenty five experiments carried out on dogs Judina found that blood transfusion plus calcium chloride inhibits the symptoms of parathyroprival tetany two transfusions and sometimes even a single transfusion plus calcium chloride kept the animal alive for a long time

Loss of the thyroid gland hormone is not the cause of the remissions of tetany in animals sub

probably as the result of a concomitant decrease in the metabolic and other activities unfavorable to growth processes JOSEPH K NARAT M D

Ewing J The Relation of Cancer to Old Age
Am J M Sc 1929 clxxvii 461

Statistical studies prove that the chance of dying of cancer increases up to the end of life and that this chance is becoming greater mainly because people are living longer and possibly also because exposure to cancerogenic agents and habits is greater However this does not prove that any greater number of the cancers result from processes of senescence The majority of cancers of the aged are probably accounted for by the mere lapse of time

While senile atrophy of tissues and organs replacement fibrosis and arteriosclerosis create local conditions favoring the development of certain cancers which may properly be attributed to old age the latter are not numerous

It appears that during the senile atrophy of tissues and organs isolated cell groups gland acini lobules and probably tissue rests escape atrophy and find conditions of growth favorable This supports Thiersch's theory of a disturbance of balance between epithelium and connective tissue but if all other causes of death were eliminated pneumonia would become the main cause of death of old persons and in the same sense would become a function of senescence

If precocious atrophy and arteriosclerosis of single organs are regarded as phases of senescence a strict chronological classification of cases is unsound and many cancers occurring in middle life belong in the group of cancers of old age

Cancer in the aged must always be considered pathological and not an essential phase of the process of senescence GEORGE A COLLETT M D

Gruskin B A Serum Test for the Diagnosis of Cancer Based on a New Theory of Etiology
Am J M Sc 1929 clxxvii 476

Although numerous serological tests for the diagnosis of cancer have been proposed none is generally regarded as reliable

The Waldeyer and Thiersch hypothesis of an equilibrium between the connective tissue and epithelial elements and the tissue tension hypothesis of Ribbert are in accord with the author's theory that the equilibrium between the connective tissue and epithelial elements is dependent upon the presence of antagonistic lytic agents

On the basis of this theory the author assumed that a lytic agent might be produced by inoculating animals with purely embryonic epithelial cells in the case of carcinoma and with connective tissue cells in the case of sarcoma

The specificity of the amboceptor produced by immunizing animals with embryonic cells having been demonstrated it seemed logical to utilize this immunological principle as a diagnostic test for cancer

The principle upon which the test is based differs fundamentally from that of other tests in that it is purely biological and the amboceptor is produced by means of purely embryonic cells

Amboceptor for carcinoma is obtained from mammalian embryos not older than two months The pancreas and submaxillary glands of such embryos are dissected out under aseptic conditions and from these organs only the epithelial tissue is removed. This tissue macerated with salt solution is then injected into rabbits The amboceptor for sarcoma is obtained from umbilical cords from which all blood has been removed

A prepared antigen of these cells has been found satisfactory The use of such an antigen eliminates animal inoculation and substitutes a flocculation test for the precipitin test

The test described was used on the sera of a large series of cases of malignant and non malignant conditions with such a high percentage of correct results that the author believes its validity has been established GEORGE A COLLETT M D

Wood H B Paraffin Not Productive of Cancer
J Cancer Research 1929 xiii 9

Paraffin has been accused of producing cancer It has been stated that paraffin workers are apt to develop cancer of the bladder and cancer of the scrotum British writers have sometimes used the word paraffin to designate what is more correctly termed paraffin oil which may be carcinogenic The name paraffin should be applied only to a definite chemical entity $C_{27}H_{56}$ It seems probable that in the experimental production of cancer in mice by the use of coal tar the high temperature distillate of the aromatic benzenes may be carcinogenic

Paraffinoma is a chronic granuloma probably due not to paraffin but to the long continued action of a low grade chemical irritant

Investigations made in fifteen oil refineries in Pennsylvania to determine the existence of carcinomatous conditions among the paraffin handlers no evidences of cancer or precancerous condition were found in such workers JOSEPH K NARAT M D

Ewing J Radiosensitive Epidermoid Carcinomata
Am J Roentgenol 1929 xxi 313

The classification of epidermoid carcinomata according to potential malignancy by the method of Broders has served to emphasize the dependence of the prognosis upon the character of the tumor rather than upon the method of treatment There is such a wide difference in the reaction of these tumors to radiation that the plan of treatment must be varied according to the sensitivity As a rule the degree of radiosensitivity runs fairly parallel with the degree of potential malignancy This is not always true however as all melanomata which are highly malignant and most carcinomata of the lip and tongue are resistant whereas most carcinomata of the œsophagus are radiosensitive

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jected to total thyroid parathyroidectomy Implantation of the thyroid gland which relieves the initial symptoms of the myxœdema, does not produce new tetany in animals that have recovered from parathyroprival tetany The total amount of calcium in the blood plays no part in the pathogenesis of tetany the latter may be absent after removal of the parathyroid glands and when the calcium content is only half the normal amount

The fact that the simultaneous infusion of calcium chloride is absolutely necessary for the success of blood transfusion in parathyroprival tetany speaks in favor of the theory of Bogomolec that the physiological purpose of the parathyroid glands is the preparation of biologically active organic colloid calcium combinations An explanation of the improvement in the condition of animals with parathyroprival tetany after blood transfusion plus calcium chloride has not yet been found BANYER VOIGT (Z)

Fischer H : Clinical and Pathological Observations in Thymus Injuries Resulting from Induration of the Anterior Mediastinal Spice (Klinische und pathologisch anatomische Beobachtungen bei Thymusschaedigungen infolge Verschwielung des vorderen Mittelfellraums) *Arch f klin Chir* 1928 cl 656

The author reports in detail the cases of three patients eighteen years of age who showed complete absence of secondary sexual characteristics and psychically the behavior of a child The prominent feature of the syndrome was the presence of circulatory disturbances in the absence of a congenital valve lesion In every case the circulatory disturbance was due to interference with cardiac activity resulting from induration and contraction of the pericardium The circulatory insufficiency was not equally pronounced in every case as it varied according to the shrinkage of the pericardium.

As the pericardially produced circulatory disturbance could not have been responsible for the developmental disturbances and did not suggest a disturbance of the thyroid or pituitary gland the cause of the endocrine disturbance was sought in the thymus

During extirpation of the pericardium which was undertaken in all of the three cases there was found in addition to the most marked indurative pericardial synechiæ a large cicatricial tumor in the anterior mediastinal space with complete disappearance of the anatomical outlines of the individual structures In the operatively removed indurated masses thymus tissue was not macroscopically demonstrable in the region of the thymus only microscopically could inclusions be recognized in the cicatricial masses This finding led to the conclusion that the developmental and sexual immaturity were due to premature involution of the thymus resulting from the chronic inflammatory process in the anterior mediastinal space RAESCHER (Z)

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EDITOR'S COMMENT

LEIBOVICI S review of the subject of vertebral osteomyelitis (p 340) and Le Fort s discussion of pathological luxation of the hip joint (p 345) call attention to two conditions of not uncommon occurrence which are often long unrecognized and because of that fact frequently lead to serious disability The clinical picture of vertebral osteomyelitis as described by Leibovici is of particular importance The sudden onset with symptoms of acute infection and with violent lumbar pain immediately suggests to the experienced surgeon the possibility of vertebral involvement. Confronted with his first case the surgeon may forget the possibility of its occurrence and so fail to make a correct diagnosis Roentgen examination is of little aid and in cases with infection of low virulence the diagnosis may remain in doubt until definite evidence of localized paravretebral infection becomes apparent No less difficult than the diagnosis is the treatment With cases involving the vertebral canal—one third of those on record—there is grave danger of rapidly spreading infection With involvement of the bodies of the vertebræ the difficulty of securing adequate drainage leads to frequent complications long-continued sepsis and repeated exacerbations Unless drainage is secured however there is little hope of cure

Pathological luxations of the hip may occur as Le Fort emphasizes as the result of insignificant trauma and even when the extremity is in a cast or under traction Destruction of the round ligament relaxation of the joint capsule from atrophy or from the pressure of intra articular effusions the flatness of the acetabulum in childhood the pressure of granulation tissue within the acetabulum and atrophy of the muscles of the hip joint are all factors which predispose to such dislocation Of particular importance is the possibility of such dislocation occurring while the patient is under treatment—in a cast or otherwise—and of the dislocation remaining unrecognized until periarticular changes render its reduction difficult

Pilcher s account of a case of coronary occlusion the first of the two cases reported by him (p 308) is an interesting contribution upon one of the most important problems that confront the surgeon—the differential diagnosis of conditions which simulate the acute surgical abdomen In the case reported the clinical picture was that of a perforated duodenal ulcer The prompt relaxation however that followed the administration of morphine (given in anticipation of operation) the rise in the pulse rate to 140 and the systolic blood pressure of 115 caused reservations as to the diagnosis Occasional weakness of the pulse at the wrist and a peculiar systolic click at the apex gave way in two hours time to a definite pulsus alternans a to and fro pericardial friction rub and a pulse of 160 Because of these findings the patient was transferred to the medical service A month later he was discharged with a pulse rate of 70 and a systolic blood pressure of 112

Three interesting papers upon carcinoma of the colon from widely separated centers—by Newton of Melbourne (p 317) Goetsch of Brooklyn (p 317) and Renander of Stockholm (p 316)—emphasize again the importance of early diagnosis and the value of a careful history and of roentgen examination in helping to establish the diagnosis Slight changes in the habitual action of the bowels and mild attacks of abdominal pain in an individual of the cancer age are in themselves without the additional lack of appetite loss of weight and pallor so characteristic of the later stages of the disease sufficient to warrant a careful physical and roentgenological examination That such an examination offers a reasonable assurance of establishing the diagnosis is shown by Renander who found that in fifty three cases of cancer of the colon the roentgenological examination was positive in 86 per cent, that in the operable cases it was positive in 91 per cent and that of the fifty three cases only two came to operation with a doubtful diagnosis after a careful clinical and roentgenological examination That the clinical picture may be an atypical one is also emphasized by Goetsch who points out the fact that progressive constipation is not always present that blood may be absent from the stools and that acute intestinal obstruction may be the first symptom of the disease

Two other papers in this month s issue Hubbard and Allison s evaluation and comparison of the van den Bergh test the Fouchet test and the icterus index test for bile pigment in blood serum (p 318) and Touw and Boekelmann s discussion upon pancreatic cysts (p 322) are a few of many more worthy of special mention

INTERNATIONAL ABSTRACT OF SURGERY

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ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

EYE

MacLean A L Congenital Bilateral Anophthalmos *Am J Ophth* 1929 xii 381

The case reported was that of a boy seven years old One of the patient s paternal uncles had the same condition but hi parents and seven brothers and sisters were normal The parents stated that the child was born normally but did not walk until he was four years old His speech had always been defective He did not feed or dre s himself but was able to make known his needs He had an excellent sense of direction a delicate sense of touch and very acute hearing A psychiatrist was of the opinion that he was weak mentally He was malnourished and showed general under development His physi cal standard was about that of a boy of five years He had infantile ear drums a marked epicanthus and ankyloblepharon LESLIE L McCOY M D

Borgeson E J and Wagener H P Changes in the Eye in Leukæmia *Am J M Sc* 1929 clxxvii 663

The authors studied the changes occurring in the eye in 138 cases of leukæmia Retinal lesions were found in 70 per cent of the acute cases 63 per cent of the chronic cases 87 per cent of the cases of the myelogenous type and 34 per cent of the cases of the lymphatic type

The most common retinal picture in leukæmia is that of engorged veins with hæmorrhagic areas and exudates of the nodular or superficial cotton wool type The typical hæmorrhagic area is irregularly rounded and has a nodular white center A diagnosis of acute leukæmia is usually justified when this type of hæmorrhage predominates In the retinitis occurring in chronic myelog nous leukæmia there is a leucocytic infiltration into the retina and choroid along the veins In all cases of leukæmia there is a high leucocyte count with a considerable number of immature leucocytes in the blood In acute leuk æmia retinal lesions are due mainly to anæmia In chronic myelogenous leukæmia they are to be attributed to anæmia and a high percentage of myeloblastic immature leucocytes in the blood In chronic lymphatic leukæmia they are due to anæmia and possibly the presence of a high per centage of immature lymphocytes in the blood

In myelogenous leukæmia retinal hæmorrhages are more common than skin subcutaneous and mucous membrane hæmorrhages whereas in lym phatic leukæmia the reverse is true In some cases of leukæmia retinal lesions may be seen as early as three weeks after the onset of the symptoms In others the fundus may be found normal as late as ten years after the beginning of the disease

In chronic leukæmia death occurs much sooner in ca es with retinal lesions than in those with normal fundi In 1 case of chronic leukæmia re viewed by the authors improvement in the general condition and the retina followed radium treatment Leukæmia is relatively seldom associated with in filtration of the lids and orbit or subconjunctival and lid ecchymo es and it rarely affects the pupils or visual fields A definite reduction in vision oc curred in only 8 per cent of the cases reviewed

LESLIE L McCOY M D

Heckel E B Gonococcic Purulent Conjunctivitis Treatment by the Exclusive Use of Iced Physiological Solution of Sodium Chloride *J Am M Ass* 1929 xcii 1582

In the author s treatment of gonococcal purulent conjunctivitis the patient is placed in a recumbent position and a good sized towel wrung out of fairly warm water and bunched together is held against the side of the head close to the eye to be douched A p ece of cotton two or three times as large as a hen s egg is then dipped into a vessel containing about 1 qt of physiological sodium chloride solution cooled by about a dozen small pieces of ice and squeezed out over the eye from a height of about 3 in This treatment is continued for about two minutes or until the œdema of the lids has subsided

The eye is then opened and the douching continued over the everted lids and exposed cornea for from *eight to ten minutes After the douching* ice pads are applied continuously over the closed lids

The douching is repeated every six hours day and *night and smears are made daily for bacteriological* examination The eyes are usually restored to normal at the end of from forty eight to seventy two hours LESLIE L McCOY M D

Newton H F The Effect of Ultraviolet Light on Corneal Tuberculosis In Rabbits *Arch Surg* 1929 xviii 1542

In experiments on rabbits in which he injected cultures of virulent tubercle bacilli into the cornea Newton found that when ultraviolet light treatment of the cornea was given before the appearance of macroscopic lesions the cornea was sterilized and remained clear Treatment of the cornea with the ultraviolet light after the appearance of macroscopic lesions resulted only in increased vascularity and infiltration Irradiation of the body of the rabbit had no effect upon the local condition All of the results were checked by microscopic examination

SAMUEL A DURR M D

Yudkin A M The Formation of the Aqueous Humor Its Relation to Intra Ocular and Vascular Pressures *Arch Ophth* 1929 i 435

The determination of the origin of the aqueous humor requires a comparison of the composition of the various fluids involved and a consideration of the forces by which the ocular fluid is produced

The results of analysis show a striking resem blance between the composition of the aqueous humor the blood and the spinal fluid As the *action of miotics on the ciliary body and its proc* esses is vascular and not glandular and as the ciliary body is not glandular histologically the author believes it is necessary to discover some other explanation of the formation of the intra-ocular fluid Leber concluded that the intra ocular fluid is produced in the ciliary processes by physical filtration More recently Duke Elder and others have advanced the theory that the unequal distribution of the ions in the serum and aqueous is characteristic of a membrane equilibrium

The findings of modern research indicate that the intra ocular fluid is derived from the blood stream by the same forces as those responsible for other fluids in the tissues VIRGIL WESCOTT M D

Knapp A Metastatic Carcinoma of the Ciliary Body Report of a Case *Arch Ophth* 1929 i 604

A woman sixty-eight years old presented a growth in the temporal side *of the right eye which pushed* the iris away from its peripheral attachment The tumor was gray and very vascular It measured 10 by 3 5 *mm*

Eight years previously the patient had had her left breast removed for adenocarcinoma and after the *operation* was given deep X ray therapy

The eye was enucleated Section showed a metastatic carcinoma of the ciliary body Roentgenograms of the chest made at that time showed a small pleural effusion possibly due to a metastasis The mediastinum was clear

About fifteen months after the removal of the eye the patient died from massive metastases in the left side of the chest and elsewhere

SAMUEL A DURR M D

Morsman L W The Retrolental Space *Arch Ophth* 1929 i 594

The older textbooks describe the lens as being embedded in the fossa patellaris of the vitreous with *no space between the two but biomicroscopy* has shown the presence of a definite postlental space about 1 mm deep and filled with aqueous. The author describes the technique for observation of this space in detail

The pathology of the retrolental space is that of the aqueous but inflammatory signs appear first and are more numerous in the space. Morsman urges that a study of the retrolental space be made in all cases of uveitis especially when sympathetic disease is suspected He cites illustrative cases.

SAMUEL A DURR M D

Walker C B The Time Element in Quantitative Perimetry *Arch Surg* 1929 xvii 1036

The author describes his tangent screen with which it is possible to take quantitative visual fields more rapidly than with a standard perimeter He discusses its use in a large clinic and reports illustrative cases SAMUEL A DURR M D

Hughes W L Angioid Streaks of the Fundus Oculi *Arch Ophth* 1929 i 551

Angioid streaks of the fundus oculi are of two main types The first type is characterized by pigmented spots usually intermittent and arranged in rows overlying vessels of rather large caliber apparently part of the choroidal circulation The second type shows an irregular peripapillary ring of pigment from which offshoots extend toward the equator diminishing in size and in an intricate branching arrangement The author reports a case of the latter type in detail giving the findings of examination *with the* slit lamp and contact glass

The article contains also an extensive review of the literature SAMUEL A DURR M D

Pines N Sclerosis of the Retinal Vessels *Brit J Ophth* 1929 xiii 97 161 225

As they penetrate the lamina cribrosa the retinal vessels pass through narrow and hard channels The *latter predispose them* to trauma Trauma favors pathological changes in the intima and media and these changes favor thrombosis

The blood vessels themselves are foreign bodies in the central nervous system (Weigert) and as *such* they are surrounded by connective tissue which sometimes is visible even in the normal eye The

tissue about an artery the perivascularis is often sufficiently hard to crush deflect or bank a vein where the latter is crossed by the artery On the nerve head just within the cribriform fascia the vein cannot give way as easily as in the retina proper The arterial perivascular tissue is therefore the cause of the injury of vein on and close to the disk and the first to show evidence of sclerosis

By the use of a certain fine technique a more or less dense membrane covering the disk and corresponding to the membrana limitans interna can be demonstrated This is called the membrana limitans glia superficialis It fuses with the perivascular tissue and at the points of fusion is thicker and more rigid As the vessels on the disk are pressed between the lamina and this membrane there is an anatomical region favoring vessel injury on the disk proper When the arteries become sclerotic this is a factor of great importance

The white lines on the optic disk may not indicate sclerosis they may be normal supporting tissue

Vessels on the retina proper may be tortuous normally Under pathological conditions the contour of the vessel is œdematous appearing as if covered with a veil or a thin layer of water

The author believes that the white streak in the center of the larger vessels is due to the perivascular connective tissue The venous pulse in the eye he attributes primarily to the close communication with the sinus cavernosus

In the second portion of the article Innes deals with the evidences of vascular disease found in the retina proper To understand differentiate and evaluate these evidences the general vascular condition must be known Innes divides the cases roughly into those of involutionary arteriosclerosis and those of essential hyperpiesis He emphasizes that even when both the systolic and the diastolic blood pressure are low advanced sclerosis of the retinal vessels may be present and that when the blood pressure is high the vessels of the retina may be only slightly altered He states that involutionary arteriosclerosis does not attack the retinal and cerebral vessels until much later or not at all but that essential hyperpiesis will alter the retinal and therefore also the cerebral vessels at an early age quickly and permanently

The first evidence of the change is loss of translucency of the wall of the vessels Where an artery crosses a vein the blood column of the lower vessel is interrupted just before and just after the crossing Usually together with this change there is a loss of the normal rosy appearance of the artery This is due to the sclerosis of the arterial wall which interferes with the visibility of the blood volume In essential hyperpiesis it is nearly always found with loss of translucency

Dotting of the light reflex on a vessel wall is seen too early to be explained on the basis of hyaline spots It may be caused by spasm of the muscularis media together with histological changes in the arterial wall

Immediately after the loss of translucency of the vessels white lines appear at the vessel crossings These are formed by the sclerotic perivascular tissue which is thicker at the crossings Depending on the thickness and hardness of this tissue and the resistance present on the other side of the vein the vein will be merely pressed upon banked crushed or deflected or its blood column will be impeded The contracting of the scar tissue in the perivascular tissue especially where it is reinforced at vessel crossing causes vessels to be pulled out of their course crushed or interrupted

The author discusses also tortuosity and general narrowing of the vessels silver wire arteries changes in the lumina of the vessels the arterial pulse arteriovenous compression centrifugal and centripetal deflection aneurisms and retinal hæmorrhages He says that often one particular spot of a vessel is more attacked than other parts Most of the manifestations of sclerosis are local—not represented to the same degree throughout the fundus When once formed these vascular changes never disappear The blood pressure may become normal but the perivascular and vascular wall changes remain

According to the findings in the author's cases a true aneurism may be seen on the retinal vessels It is generally of the miliary type In the case of veins it is found by dilatation of a venule with obstruction of the blood stream and in the case of arteries by interference with the nutrition of the vessels The danger of rupture is not great

Atheroma is seen more frequently in combination with essential hyperpiesis than with ordinary involutionary sclerosis The chief cause of hæmorrhage is fragility of the arterial wall (calcification) The blood pressure is only a secondary factor

In the third part of the article the author discusses in detail the changes in syphilis atheroma diabetes and nephrosclerosis He states that syphilis per se does not especially attack the retinal vessels but if arterial hypertension is also present the sclerotic changes are well marked and advanced as in similar cases of essential hyperpiesis

With regard to diabetes Innes states that the retinal vessels are attacked even when the condition is mild but probably only to the same degree as the vessels in other parts of the body Constant frequently repeated and careful supervision of the urine blood pressure and retina is necessary in every case of diabetes whether the condition is treated by purely dietetic measures or by insulin Aggravation of the retinal changes hæmorrhages and especially œdema are often combined with a rise in the blood pressure and lowering of the specific gravity of the urine

In conclusion Innes reviews his discussion of the important rôle played by the perivascular tissue in vascular changes and the ease with which these changes may be recognized in the background of the eye

THOMAS D ALLEN M D

Moore R F and Scott R S A Clinical and Pathological Report of Bilateral Glioma Retinæ *Proc Roy Soc Med* Lond 1929 xxii 951

The authors report two cases of bilateral glioma retinæ The patients were children two years and six months old respectively In the first case both eyes were removed In the second case only unilateral enucleation was done as the parents refused to allow a bilateral operation

The authors believe that when removal of the eye is not permitted the best results are obtained by the introduction of radium over the site of the growth between the sclera and choroid

VIRGIL WESCOTT M D

EAR

Pitman L K The Open Eustachian Tube *Arch Otolaryngol* 1929 ix 494

The author calls attention to the facts that the middle ear is aerated when the eustachian tube is opened during deglutition and phonation and that the incidence of aural infection increases in the presence of nasopharyngeal disease Because of these facts the middle ear is subjected to greater danger of infection when the tube is kept constantly open As a cause of constant patency of the tube Pitman cites the hypertrophied tonsil which by its upward pressure tends to elevate the levator palati muscle thus pushing the alar cartilage backward upward and inward

GEORGE R MCAULIFF M D

Richards L Mastoiditis in Acute Nutritional Disturbance *Arch Surg* 1929 xviii 1774

In an investigation of the conditions of the ears of 100 babies suffering from acute nutritional disturbances the author found one or both drums open in 44 cases a group in which the mortality was 66 per cent In 12 cases a single or double mastoidectomy was done with 9 deaths

In Richards opinion local aural infection is not such an important etiological factor in acute nutritional disease as has been frequently assumed

GEORGE R MCALLIFF M D

Horgan J B Delayed Zygomatic Mastoiditis *J Laryngol & Otol* 1929 xliv 309

The author thinks it justifiable to assume that delay in its appearance is a clinical peculiarity of zygomatic mastoiditis There are three possible explanations of this delay

The first is that the spread of the infection along the connecting link of cells between the zygoma cells and those of the mastoid proper while not discernible at the time of operation may nevertheless continue in a desultory manner until it reaches the terminal and larger cells in the zygoma or squama the subsequent course of events being then determined by the bodily resistance or some other factor

The second explanation is that as suggested by Heine the infection may creep from the epitympanic recess into the spongiosa between the two layers of compact bone forming the roof of the external meatus at a comparatively late period of the disease and invade the zygoma from there In Holmgren's opinion zygomatic or squama cells originating from the recessus and without direct communication with the antrum may be present

As a third explanation the author suggests that, having reached the region of the glenoid fossa by way of the glaserian fissure the infection may after a variable interval give rise to symptoms which would have a clinical resemblance to those resulting from a zygomatic abscess which had broken out in front of the zygoma root The possibility of the spread of infection by this route is evident when it is remembered that the postero internal attachment of the capsule of the mandibular joint above is anterolateral to the glaserian fissure and that the latter is pervious to the tympanic branches of the internal maxillary artery lodges the slender process of the malleus and transmits the chorda tympani nerve from the tympanum by the canal of Huguier It is readily apparent therefore that an infection passing through this fissure may cause trismus and give rise to an abscess beneath in or superficial to the temporal muscle and that because of the relative relaxation of the surrounding tissues it may take time to develop or at least to become manifest

JAMES C BRASWELL, M D

Stewart J P Acute Purulent Meningitis of Aural Origin *J Laryngol & Otol* 1929 xliv 225
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Layton T B Otitic Meningism *J Laryng & Otol* 1929 xliv 246
Davis E D D Otitic Meningitis Its Morbid Anatomy Prevention and Early Diagnosis. *J Laryng & Otol* 1929 xliv 249

STEWART reviews 114 cases of acute purulent meningitis following middle ear disease In 69 per cent the condition followed the chronic type and in 31 per cent the acute type of suppurative otitis media The most common organism was the streptococcus In 92 per cent of the cases bacteria were found in the fluid obtained by spinal puncture The diagnosis was based on the general appearance of the patient and his early uneasiness the temperature and pulse chart the physical findings and the findings of examination of the spinal fluid The treatment consisted in operation supplemented by chemical therapy While many drugs have proved ineffective the author has found the daily intravenous injection of 50 c cm of a 10 per cent sodium-chloride solution of value Drainage is established most satisfactorily through the internal auditory meatus When continuous drainage is not employed frequent lumbar puncture is sound treatment Of the 114 patients whose cases are reviewed 8 recovered

JENKINS discusses (1) a method of washing out the subarachnoid space in cases of septic meningitis secondary to infection of the ear (2) the importance of maintaining positive pressure of the cerebro-

spinal fluid when operating on a septic region communicating with the subarachnoid space and (3) the operative treatment indicated when cerebrospinal fluid is leaking from the region of the ear

After doing a lumbar puncture and performing the superior and inferior labyrinthotomy operations Jenkins makes an opening into the internal auditory meatus When the flow of fluid has been established he runs a modified Locke's solution and especially prepared iodoform through the lumbar puncture needle To stop late leakage of the cerebrospinal fluid from the region of the ear he performs a plastic operation placing over the leak a large flap of the temporal and sternomastoid muscles

Layton objects to the term meningism as he believes that in ear cases the meningeal involvement should be regarded as a true meningitis In such a condition lumbar puncture is contraindicated as it may cause the organisms to be sucked down to the region of the foramen magnum thus distributing the infection and reducing the chances of recovery

Davis states that because of the passage of nerves and vessels through the petrous bone otitic meningitis is usually basal and the suppuration is found in the basal cisterns and posterior fossa Persistence of pain headache and fever after a mastoid operation requires careful investigation Reopening of the mastoid may be necessary as unopened deep retrofacial or zygomatic cells may contain pus In some cases a lateral sinus infection or thrombosis may be the source of the infection When such infection is found drainage must be established through the labyrinth or the posterior fossa depending upon the line of the infection The cerebrospinal fluid should always be examined when the slightest suspicion of an intracranial infection arises The author has never regretted early drainage of the meninges He believes that the same success should be obtained in the surgery of the meninges as is now obtained from prompt treatment in general peritonitis George P McAuliff M D

NECK

Ashhurst A P C Ludwig's Angina *Arch Surg* 1929 xvii 2047

Ashhurst regards Ludwig's angina as a clinical entity—a septic cellulitis of the floor of the mouth and the neck The disease was originally described in 1836 by Ludwig who reported five cases three of which were fatal Ludwig defined the condition as an inflammation of the cellular tissues which begins around the submaxillary gland invades the neck and floor of the mouth and terminates in death in ten or twelve days or gradual recovery He summarized its characteristics as an insignificant inflammation of the throat which soon subsides a peculiar wooden hardness of the cellular tissues a hard swelling under the tongue a callous swelling on the inner border of the mandible a well defined border of hard œdema in the neck and absence of disease of the glands in spite of the involvement of the surrounding tissues

The author describes the condition as an acute inflammatory process involving the cellular tissues of the floor of the mouth and the submaxillary region of one or both sides of the neck—a true cellulitis to be distinguished from lymphangitis and lymphadenitis He states that the lymph nodes and submaxillary and sublingual salivary glands may be involved secondarily The cellulitis may begin in either the sublingual or the submaxillary cervical tissues

Lymphangitis and lymphadenitis always arise from surface lesions in the skin or mucous membrane whereas cellulitis is due to infection arising in the cellular tissues themselves and spreading by direct continuity instead of by way of the lymphatics

Ashhurst reports eighteen cases of true Ludwig's angina treated at the Episcopal Hospital Philadelphia since 1905 In eleven the condition was due to tooth infection in one to an infection of the tongue and in six to an unknown cause Thirteen of the patients recovered and five died

The author describes the routes by which pus may escape from an infected tooth and infection may spread in the neck by fascial plane extension The communication between the sublingual and submaxillary regions at the posterior portion of the mylohyoid and the relationship of the carotid sheath are described on the basis of dissections and injections of dye

Following the diagnosis of Ludwig's angina a small submental midline incision should be made and through and through drainage established by means of a rubber tube through the floor of the mouth behind the symphysis A second incision 4 or 5 cm long should be made anteroposteriorly well below the angle of the jaw but through only the skin and platysma The submaxillary space should then be traversed by blunt forceps the floor of the mouth perforated and rubber tube drainage established through this opening Hot moist dressings and frequent irrigations are indicated

Frank B Berry M D

Figi F A Radium in the Treatment of Multilocular Lymph Cysts of the Neck in Children *Am J Roentgenol* 1929 xxi 473

Of thirteen cases of cystic hygroma in infants seen at the Mayo Clinic in the period from 1918 to 1927 inclusive excision was considered advisable in only one In the remaining twelve cases radium was used Radium irradiation causes no pain and practically no mortality It frequently causes complete disappearance of the tumor without scarring Its principal disadvantage is that the treatment must be repeated at intervals of two or three months over a long period of time

In the cases reviewed the dosage ranged from 3 000 to 7 000 mgm hrs per treatment with a screen of 2 mm of lead and a distance of 2 5 cm It was applied directly over the tumor The total number of applications varied from one to nine and the average number was four Three of the patients are

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Postoperative reaction following thyrotomy is due to infection of the tissues of the neck from the tracheal secretions and trachitis bronchitis and bronchopneumonia The ordinary patient in excellent health is usually able to withstand these conditions but patients who present a bad risk because of their age or respiratory or cardiac disease are better guarded against such reactions by the two stage operation The operation employed by New is as follows

The median line of the neck extending from above the hyoid bone to just below the cricoid cartilage is infiltrated with 0 5 per cent procaine The infiltration is carried down about the hyoid bone and laterally to the thyroid cartilage The median line incision is then made the hyoid bone is divided and the ends are retracted laterally by means of sharp retractors This procedure allows the larynx to come up into the wound thereby affording better exposure The muscles are removed from the anterior portion of the larynx down to the cricoid cartilage and the wound is closed with a dermal suture Four days later the resulting clean wound is infected by making a small opening into the cricothyroid membrane or removing a disk from the cricoid cartilage A small tracheal tube may be inserted if necessary to maintain the opening The patient becomes accustomed to the infection from the trachea and the trachea becomes accustomed to the air passing directly into it

A few days later usually four the second stage of the operation is done Under block paravertebral anæsthesia the wound is freed by means of the index finger and the divided ends of the hyoid bone are retracted The upper end of the thyroid cartilage is then picked up by a small sharp pointed forceps and divided by means of a saw The cricoid cartilage is not divided The thyrohyoid membrane is partially divided in the median line in order to obtain better exposure The laryngeal growth is removed by dissection or diathermy depending on the type and extent of the growth Bleeding is controlled by catgut sutures the thyrohyoid membrane is approximated and the muscles are sutured anteriorly to the thyroid cartilage A split rubber tube is placed at the lower end of the wound down to the thyroid cartilage and left in place for forty eight hours in order to prevent surgical emphysema

This type of operation is followed by little reaction as the patient has become accustomed in stages to the tracheal infection in the soft tissues of the neck and to the tracheal opening

well one has only a small nodule remaining and two show marked improvement Seven patients died from acute infection in the tumor In some of the acute infections radium was employed without causing any apparent aggravation of the condition Experience indicates that the use of radium has no bearing upon the likelihood of acute infections or the clinical course of an infection already present

The author concludes that radium is of definite value in the treatment of multilocular lymph cysts in children A JAMES LARKIN M D

Wilson G E The Nature of the So Called Micro capillaries of the Thyroid Gland and Other Secreting Epithelia *Anat Record* 1929 xlii 243

To determine the nature and occurrence of the minute interweaving tubules found by Williamson in the epithelium of the thyroid gland and other epithelial structures Wilson studied 665 specimens of epithelial tissue including 527 thyroids He discovered the canaliculi with considerable frequency in hyperplastic thyroid tissue of all types including fetal thyroids but not in normal adult glands In general their frequency and prominence were parallel with the degree of hyperplasia present They were found most commonly in acini having the tallest most active epithelial cells Procedures which bring about involution of the thyroid such as the administration of iodine or exposure to the X rays cause them to disappear Morphologically identical structures were found in various other structures examined such as the bile ducts liver stomach intestines salivary glands kidneys pancreas prostate uterus and bronchi In these organs also the canaliculi seemed to bear a relationship to the activity of the tissue or cell

On the basis of these studies Wilson concludes that the microcapillaries are nothing more than the terminal bars of the secreting epithelia He believes that they are thickenings or condensations of the intercellular cement substance which surround the cells in a vast interlacing network and that their appearance is due to a change in the physicochemical balance of a group of cells due possibly to variations in physiological or metabolic activity They are always solid intercellular structures never displaying the appearance of a lumen

LEO M ZIMMERMAN M D

Ginsburg S Thyrotoxicosis in Childhood Early Diagnosis and Radium Therapy *Am J Dis Child* 1929 xxxvii 923

The author states that thyrotoxicosis in childhood is not so rare as was formerly believed The symptoms are essentially the same as those in the adult except that in the child the movements though purposeful and coordinated are more frequently choreiform Ginsburg reports a number of cases in which excellent results were obtained from radium therapy In one case radium caused improvement after thyroidectomy had failed

EARLE I GREENE M D

Groover T A Christie A C Merritt E A Coe F O and McPeak E M Roentgen Irradiation in the Treatment of Hyperthyroidism *J Am M Ass* 1929 xcii 1730

This article is based on 305 cases of hyperthyroidism in which all of the requisites for determining the efficacy of roentgen therapy were reasonably well met Brief mention is made of the general management of the cases and the radiation technique that was used On the basis of the clinical signs and symptoms and the metabolic rate 37 of the cases were classified as being mild 157 as moderate and 111 as severe

The results predicated on observations extending over a period of years indicated that a cure was obtained in 271 cases improvement in 26 and no improvement in 8 Those cases were considered cured in which there was disappearance of the signs and symptoms of the thyroid intoxication with restoration of the normal metabolism even though there may not have been complete disappearance of the by-effects of the intoxication One of the most reliable criteria for judging the progress of improvement was a gain in weight

The average length of time before improvement began was approximately two months and the average duration of treatment was less than five months There were only 4 recurrences These developed after one two four and five years respectively

In the 34 cases in which the roentgen treatment did not effect a cure the failure was due largely to overwhelming toxicity serious cardiovascular or other visceral changes or non cooperation on the part of the patient or attending physician In a few cases hypothyroidism and telangiectasis were noted as sequelæ of the irradiation

In conclusion the authors state that while the data presented do not justify a dogmatic conclusion with respect to the value of roentgen irradiation in the treatment of hyperthyroidism they appear to indicate clearly that this form of treatment is worthy of consideration ADOLPH HARTUNG M D

New G B Two Stage Thyrotomy in Cases Considered Bad Risks *Arch Otolaryng* 1929 ix 538

One of the fundamental principles of present day surgery is conservation of the patient s strength This is of particular importance in the case of the patient who presents a bad risk The operative mortality in thyrotomy for epithelioma of the larynx is extremely low when death occurs the patient usually presented a bad surgical risk because of advanced age or disease In cases of bad surgical risk the two stage thyrotomy is indicated as it is followed by less postoperative reaction than the one stage operation

During the last four years thyrotomy has been performed at the Mayo Clinic for epithelioma of the larynx in twenty three cases without an operative death

of one pupil typical altered reflexes and pathological toe signs In every case the dilated pupil was on the same side as the hemiplegia In three of the five cases which were operated upon, a bilateral exploration was done and in two the side opposite the hemiplegia and dilated pupil was explored All but one of the patients died In every fatal case autopsy revealed a large hæmatoma on the same side of the brain as the dilated pupil The dilated pupil was therefore a more reliable indicator of the side of the lesion than the hemiplegia

In a brief review of the literature Rand states that dilatation of one pupil with homolateral cerebral hæmorrhage was described by Macewen in 1887 Cushing has called attention to the significance of the unilateral dilated pupil and more recently Holman and Scott Vance Catrer Butler and Mennin ger have emphasized it on the basis of large series of ca es ALBERT S CRAWFORD M D

Boyd D Post Traumatic Headache Treated by the Spinal Insufflation of Air *Arch Surg* 1929 xvii 16 b

Stimulated by Penfield s report of seven cases of posttraumatic headache successfully treated by lumbar air insufflation Boyd carried out this treatment in a series of ten cases In seven of the latter it was followed by definite improvement but in three it failed to give relief

The failures led Boyd to conclude that cases with progressive cerebral disease and cases with neuroses or a psychoneurosis should not be treated by this method and that in no case should air insufflation be used until all other more conservative measures have been tried LEO M DAVIDOFF M D

Pancoast H K and Fay T Encephalography Roentgenological and Clinical Considerations for Its Use *Am J Roentgenol* 1929 xxi 421

The authors review the present status of our knowledge regarding encephalography describe the anatomy sufficiently to explain the pathways taken by fluid and air under normal and pathological conditions and discuss intracranial hydrodynamics the indications and contra indications for encephalography the clinical and roentgenographic technique for the procedure and the mortality

They show the cerebrospinal fluid pathway with diagrams and roentgenograms explain the mechanism of the deformities produced by lesions at different points and describe the appearance of the deformities in the encephalogram

For the study of le ions which are definitely supratentorial and do not obstruct the aqueduct of Sylvius or the outlets from the fourth ventricle (foramina of Magendie and Luschа) the authors consider encephalograms preferable to ventriculograms They regard encephalography as invaluable in the diagnosis of cases in which ob cure symptoms arise in association with trauma inflammation or senility and for the study of the changes underlying epilepsy hæmorrhage brain tumor hemiplegia birth injuries and cerebral manifestations of uncertain origin

Contra indications to encephalography are based mainly on the fact that intraventricular increased pressure in which communication between some part or all of the ventricular system and the subarachnoid space ha been interrupted causes herniation of the cerebellum into the foramen magnum when the pressure from below has been reduced by the withdrawal of fluid from the spinal canal

According to the statistics from a number of clinics the mortality of encephalography i less than 2 per cent The only conceivable condition in which the procedure if properly performed in the absence of contra indications might be a primary cause of catastrophe is the occasional case in which relief of pressure causes rupture of a pathological blood vessel coursing through a supratentorial glioma ERIC OLDBERG M D

Putnam T J Separation of the Growth Promoting Hormone from That Inducing Premature Œstrus in the Anterior Pituitary Gland *Arch Surg* 1929 xviii 1699

Putnam who has had a wide experience in the experimental use of extracts of the anterior lobe of the pituitary gland found that the powdered insoluble residue remaining after the extraction of fresh beef anterior lobe with mild alkalies acids alcohol and acetone is capable of producing premature œstrus when implanted intraperitoneally in young rats and mice The injection of the alkaline extract on the other hand while it stimulated growth not only failed to accelerate œstrus but stimulated corpus luteum tissue

The author therefore concludes that at least two chemically distinct hormones are present in the anterior lobe and may be separated by means of the extractives mentioned LEO M DAVIDOFF M D

Putnam T J Benedict E B and Teel H M Studies in Acromegaly VIII Experimental Canine Acromegaly Produced by the Injection of Anterior Lobe Pituitary Extract *Arch Surg* 1929 xviii 1708

In a few respects the acromegaly produced by the authors in a dog differed from the spontaneous variety of the condition occurring in man The thyroid for example was distinctly hyperplastic whereas in human acromegaly this gland is usually enlarged but colloid in character The genital tract was hypertrophied in the dog whereas in human acromegaly it is usually atrophied The ovaries of the dog contained ripe but unruptured follicles which are also unusual in human cases but corresponded to the findings in one case at least reported in an earlier article of the series from Cushing s clinic and laboratory to which this one belongs In general however the condition produced in the dog appeared to correspond closely to that occurring spontaneously in human beings The authors summarize their findings and conclusions as follows

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Cobb S The Cerebral Circulation VIII A Quantitative Study of the Capillaries in the Hippocampus *Arch Surg* 1929 xviii 1200

Cobb reports the findings of a study of the size of the capillary bed in the hippocampus of the rabbit *With the animals alive and under general* anæsthesia a 2 per cent solution of Berlin blue was injected into the upper aorta at a uniform known pressure The animals probably died within from five to ten seconds after the solution began to flow On completion of the injection the brains were fixed in formalin and embedded in celloidin Sections 20 micra thick were then cut The sections were stained lightly with a 1 per cent solution of carmalum and the capillaries counted through a square ruled disk micrometer in a Zeiss ocular No 2 with a Zeiss objective apochromat 4 mm Each of the small squares measured 25 micra on a side and twenty five small squares were used Therefore each capillary count was made on a cube of tissue measuring 125 by 125 micra and containing 312 000 cubic micra or 1/3 200 of a cubic millimeter Multiplying the count in one square by 3 200 gave the count for a cubic millimeter and division of the final figure by 1 000 gave the results in millimeters of capillary length per cubic millimeter of brain substance

It is possible that the injections were not always complete and that there may have been some variation as the result of shrinkage but such errors as occurred must have been fairly uniform

The author found that the cellular layers have more capillaries than the white layers and that the cellular areas differ among themselves The average capillary length per cubic millimeter in the lamina pyramidalis was about 680 mm whereas among the granular cells of the dentate gyrus the average was 400 mm per cubic millimeter In the stratum radiatum a fibrous layer the average length of capillaries per cubic millimeter was about 300 mm

The relative differences found between the capillaries in different layers are in accord with the findings of other investigators It is of interest that the size of the capillary bed is small as compared with that in areas of equal size in striated muscle

LEO M DAVIDOFF M D

Bagley C Jr The Grouping and Treatment of Acute Cerebral Traumata *Arch Surg* 1929 xviii 1078

The author attempts to classify the acute cerebral traumata according to both clinical and postmortem observations He stresses as did Dowman in a previous article the importance of accurate classification before the type of treatment is determined.

He divides the cases into seven groups the first two according to the skull injury and the remaining five according to the amount and location of blood within the cranial cavity The chief characteristics and appropriate treatment are as follows

Group 1 simple depressed fractures The signs and symptoms vary greatly depending upon the extent of the injury The treatment is elevation of the depression and replacement of the fragments after recovery from the shock of the injury

Group 2 compound fractures The diagnosis is simple Early operation is essential both to relieve the pressure and to prevent infection

Group 3 extradural hæmorrhage The signs and symptoms are those of increased intracranial pressure appearing early or after a lucid interval of varying length Focal signs result if the blood is localized over a cortical center The treatment consists of early evacuation This is usually accomplished through a subtemporal decompression

Group 4 blood overlying the cortex The symptoms depend upon whether the clot is localized and whether the blood is mixed with the cerebrospinal fluid If there is a clot the treatment is the same as in cases of Group 3 If the blood is mixed with the spinal fluid irritation rather than pressure results Repeated spinal drainage is indicated At times subtemporal decompression is necessary in addition.

Group 5 cortical injuries The laceration may necessitate exposure and removal of blood clots Diffuse extravasations result in a prolonged serious course with delirium Exploration may be indicated if the course is unfavorable When clots form they should be evacuated if they are localized and removable

Group 6 extravasations in the vein of Galen system These are infrequent lesions characterized by an increase in the temperature pulse and respirations spasticity low pressure and only a moderate change in consciousness The treatment is conservative and symptomatic

Group 7 hæmorrhage of the brain stem The symptoms are similar to those in cases of Group 6 but the spinal pressure is increased and the fluid is bloody The treatment is conservative

ALBERT S CRAWFORD M.D

Rand C. W The Significance of a Dilated Pupil on the Homolateral Hemiplegic Side In Cases of Intracranial Hæmorrhage Following Head Injuries Report of Seven Cases *Arch Surg* 1929 xviii 11 6

The author reports seven cases of serious cerebral injury followed by unilateral hemiplegia dilatation

hind and draining the abscess cavity through sev eral centimeters of cerebellar tissue

McKenzie s series consisted of eleven verified cases Six of the patients were cured and five died The fatal cases are reviewed with comment on er rors in the treatment or unfavorable circumstances which caused death LEO M DAVIDOFF M D

Greene T C The Ability to Localize Sound A Study of Binaural Hearing in Patients with Tumor of the Brain *Arch Surg* 1929 xviii 1825

By a number of ingenious devices and experi ments Greene endeavored to determine the path way and the center for the localization of sound in the brain He states that the ability to determine the direction from which a sound is coming seems to depend chiefly upon the greater intensity of the sound in the near ear and the difference in the time it takes to reach the near and the far ear The second factor has been proved the more important A sound reaches the near ear a fraction of a second before it reaches the far ear

In an effort to determine the factors which disturb the normal ability for localization the author made observations on ninety eight persons—nineteen con trols thirteen otological patients with deafness in one ear from varying causes and sixty six neuro logical patients of whom fifty six were believed with considerable certainty (proved by operation in forty two cases) to have a brain tumor From the results of this study he draws the following conclusions

1 Most persons with di ease of the middle ear are able to localize sound with almost normal accuracy

2 Lesions of the temporal lobe or increased intra cranial tension tend to impair the ability to localize sound

3 Auditory pathways extend from each ear to both temporal lobes and form a decussation similar to that in the optic chiasm ERIC OLDBERG M D

Crowe S J Anatomical Changes in the Labyrinth Secondary to Cerebellopontile and Brain Stem Tumors *Arch Surg* 1929 xviii 98

Crowe describes the anatomical changes in the labyrinth occurring in two cases of brain tumor

In the first case a metastatic carcinoma in the right internal auditory meatus had caused pressure atrophy of most of the fibers of the cochlear and the central trunk of the vestibular nerves The de generation of the vestibular nerve extended only to the vestibular ganglion while that of the cochlear nerve included the cochlear ganglion the peripheral nerve fibers and the organ of Corti

The second case was that of a boy of nine years who died after a cerebellar exploration for internal hydrocephalus from a glioma of the midbrain and right cerebellar lobe Changes in the cochlear ganglion nerve and organ of Corti similar to those found in the first case had resulted from the pressure of the tumor upon the auditory pathway in the cerebellum and midbrain

These observations indicate that the vestibular nerve follows the wallerian law of degeneration but that the cochlear nerve is an exception Other re cent experimental work seems to confirm this observation ALBERT S CRAWFORD M D

Bailey P Intracranial Sarcomatous Tumors of Leptomeningeal Origin *Arch Surg* 1929 xviii 1359

Contrary to former belief primary sarcomata of the brain are extremely rare In all of Cushing s vast material Bailey was able to find only a few such tumors

The term sarcoma being strictly applicable to tumors of mesodermal origin its appropriateness for neoplasms arising from the leptomeninges is immediately challenged by the assumption that these membranes are of ectodermal origin While the author accepts the theory of the ectodermal origin of the leptomeninges he believes that the rapidly growing tumors of leptomeningeal origin described in this article differ sufficiently in structure from the rapidly growing intracranial tumors cer tainly of neuro ectodermal origin to be called sar comata He divides the growths into peritheliomata perithelial sarcomata fibroblastomata and alveolar sarcomata and reports a few cases of each

Although all of these tumors must arise from the leptomeninx or its derivatives their microscopic structure is exceedingly diverse The various types which they assume for the most part emphasize the kinship of the pia arachnoid with the extraneural connective tissues Only the occurrence of melano mata might be considered in favor of a neuro ectodermal origin of these tumors in case the melanin bearing cells differentiate directly from the meningoblasts However in the absence of any direct embryological observations on the develop ment of the meningeal melanophores it is possible that they migrate into the pia arachnoid as they are said to migrate into the choroidal coat of the eye LEO M DAVIDOFF M D

Kolmer J A Rule A M and Madden B The Chemotherapy and Serum Therapy of Pneu mococcus and Streptococcus Meningitis VI The Cerebral Cisternal Spinal Lavage Method of Treatment for Septic Meningitis *Arch Otolaryngol* 1929 ix 428

This article is one of a series dealing with chemo therapy and serum therapy for pneumococcus and streptococcus meningitis and records the results ob tained in experiments on dogs with continuous drainage from the cisterna magna and spinal men inges combined with lavage by way of the ventricles and subdurally by means of trephination About 30 per cent of the dogs recovered permanently from the induced meningitis

The technique of treatment includes the following steps (1) ether anæsthesia and bilateral trephina tion at points well upward toward the longitudinal sinus and well forward in the frontal region (2) the

1 A dog which received daily for fourteen months a sterile aqueous extract from the anterior lobe of beef hypophysis grew to almost twice the weight of its litter mate control It developed among other conditions enlargement of the acral parts polyphagia asthenia sialorrhœa and spontaneous lactation

2 The animal succumbed to myocardial failure and œdema of the lungs A skeletal overgrowth with hyperostosis was present There was a generalized splanchnomegaly affecting the thyroid and genital tract most strikingly The thyroid was hyperplastic there were adenomata of the suprarenal glands and the ovaries were found to contain ripe but unruptured follicles

3 The condition produced appears to merit the designation of experimental acromegaly

LEO M DAVIDOFF M D

Davidoff L M The Treatment of Hydrocephalus A Historical Review and the Description of a New Method *Arch Surg* 1929 xviii 1737

The author reviews the treatment of hydrocephalus since the days of Hippocrates No form of therapy was of much value until the introduction of modern antiseptic and aseptic surgery Since then every variety of drainage of the cerebrospinal fluid spaces has been applied in the treatment of the condition Among the most successful has been drainage of the spinal canal into the peritoneal cavity in cases of the communicating type of hydrocephalus The one difficulty with this method has been the selection of a proper connecting tube between the two cavities All foreign substances both organic and inorganic have proved only indifferently successful

For the treatment of hydrocephalus of the communicating type the author proposes a method in which the spinal fluid spaces are drained into the peritoneal cavity by means of a tube prepared from the patient's skin The skin is implanted under the rectus fascia and grows into a tube in the course of about four weeks as was first demonstrated by Davis and Traut

Up to the time the article was written the method had been applied only to dogs The results have been successful

Stewart S F Dysphasias of Cortical Rigidity and Their Treatment A Preliminary Report *Arch Surg* 1929 xviii 1389

For the relief of the dysphasias of cortical rigidity—difficulty in making certain sounds and in slipping rapidly and easily from syllable to syllable—Stewart advocates excision of the superior cervical ganglia

This treatment is based on the claims made chiefly by Royle and Hunter that certain types of rigidity are relaxed by cutting the sympathetic supply to the muscles involved Stewart reports three cases in which it was apparently beneficial

LEO M DAVIDOFF M D

Locke C E Increased Intracranial Pressure Associated with Syphilis *Arch Surg* 1929 xviii 1446

Among 390 cases of either positive or presumed brain tumor Locke found 11 with a positive Wassermann reaction of the blood In 6 of the 11 cases there were signs of increased intracranial pressure and on investigation the increase in pressure was found to be associated with cerebral syphilis and not with brain tumor This luetic affection of the brain need not necessarily be due to an isolated gumma in several of Locke's 6 cases it was produced by syphilitic leptomeningitis

When the signs of intracranial pressure do not promptly subside under antisyphilis treatment Locke advises a subtemporal decompression

LEO M DAVIDOFF M D

McKenzie K G The Treatment of Abscess of the Brain *Arch Surg* 1929 xviii 1504

McKenzie states that the surgical treatment of brain abscess should seldom be an emergency measure While it is well to make an early diagnosis it is better to watch the patient and delay operation for four or five weeks until the abscess has been walled off Suspected abscess of the brain may prove to be localized meningitis cerebritis or lateral sinus thrombosis

In the treatment of true brain abscesses McKenzie trephines over the suspected area and explores with a blunt pointed hollow needle If he strikes the capsule at right angles to the surface he opens the dura within the enlarged trephine hole works retractors into the abscess cavity and sucks out the pus from the bottom of the cavity He then places a piece of rubber tubing with the diameter of a lead pencil within the cavity but does not sew it in surrounds the protruding end of the tube with vaseline gauze and covers the latter with a soft wool dressing The tube is gradually extruded and the brain forms a small hernia which eventually heals

If the exploring needle strikes the abscess obliquely the author makes another trephine hole in order to reach the pus more directly because obtuse drainage is unsatisfactory

For doubtful cases with an infected sinus (mastoid or frontal) McKenzie advises first cleaning up the sinus infection Frequently the patient gets well under this treatment alone In other cases a sinus tract is found through the dura from an abscess in the brain leading into the mastoid cells This is easily dealt with by exploring the tract to the source of pus If operation on the accessory sinus does effect a cure a trephine hole is made above the infected wound in a clean area and if pus is struck the trephine opening is enlarged downward and drainage of the abscess is established through the mastoid wound

In cases of cerebellar abscess of otitic origin McKenzie cuts across a thrombosed lateral sinus or obliterates a normal one and drains the abscess anteriorly believing this safer than entering from be

400 patients with tic douloureux This incidence is in accord with Frazier s finding of 1 such case in 520 cases of trigeminal neuralgia and Cushing s finding of 3 such cases in a series of 33 gasserian operations

The condition is characterized by pain beginning with an attack of herpes over the same distribution The pain is of two varieties (1) a constant dull burning ache and (2) recurring paroxysms of extremely severe sharp shooting pain resembling that frequently associated with tumor of the gasserian ganglion There is often an objective loss of sensation over the painful area with corneal areflexia and disturbance of the motor branch of the trigeminal on the affected side Especially in the aged the pain may persist for years

The fact that alcohol injections and sensory root sections do not give permanent relief indicates central involvement by the lesion although none has been demonstrated On the other hand the ganglion itself shows both irritative and destructive changes

LEO M DAVIDOFF M D

Vail H H Vidian Neuralgia from Disease of the Sphenoidal Sinus Report of a Case *Arch Surg* 1929 xvii 1 47

In the case reported there were paroxysmal attacks of severe stabbing and continuous pain which began on the left side of the nose and radiated across the face into the left eyeball forehead upper teeth palate ear neck and shoulder Such pain is usually attributed to neuralgia of Meckel s ganglion but by means of an operative opening in the sphenoidal sinus and examination by the nasopharyngoscope the patient was found to have a sphenoidal sinusitis and later it was possible to demonstrate inflammation in the extensively pneumatized sinus with each attack of pain

LEO M DAVIDOFF M D

Morelle J Tumors of the Acoustic Nerve *Arch Surg* 1929 xviii 1856

This article reports a complete macroscopic and microscopic study of an acoustic tumor accidentally discovered in the brain of a seventy four year old woman who died following a radical mastectomy for carcinoma of the breast The findings are summarized as follows

1 The tumor seemed to have had its origin in the distal portion of the cochlear division

2 The fibers of the acoustic nerve spread out over the surface of the tumor If it is possible to judge from the myelin sheaths they penetrated the neoplasm rarely and only superficially

3 Histologically the tumor was formed of two tissues reticular and fibrous which are characteristic of acoustic tumors The variable distribution of these tissues in the tumor explains how the examination of a small fragment might lead to an erroneous histological diagnosis

4 This case verifies the operative observation of a juxtapontile localization of the denser parts of the tumor

5 The staining method of Perdrau displays a special fibrillary formation which cannot be of either nervous or neuroglial nature

ERIC OLDBERG M D

SPINAL CORD AND ITS COVERINGS

Horrax G Experience with Chordotomy *Arch Surg* 19 9 xviii 1140

The term 'chordotomy is being used arbitrarily to mean an incision into the cord which divides the anterolateral fiber tracts or the pain and thermal pathways This procedure was suggested by Spiller and was first carried out by Martin in 1912

Chordotomy is indicated mainly to relieve pain in incurable or hopeless lesions of the lower spine pelvis or lower extremities As the pain fibers may ascend upward on the same side before crossing to the opposite anterolateral tracts the section must be at least five segments above the pain level The highest level at which section of the anterolateral column can be done without causing phrenic complications is the sixth cervical segment

Horrax reports eight cases In five the pain was due to a previous syphilitic infection in one to hypertrophic spondylitis in one to a recurrent cord tumor and in one to a hypernephroma Of the eight patients six were distinctly benefited by the chordotomy and two were relieved only for periods of a month or two One patient died from bronchopneumonia The two patients who were not entirely relieved had tabetic pains In one the failure of the operation may have been due to incomplete section

An important point in the technique regarding which there is lack of agreement is the depth of section In most cases 5 mm seems to be deep enough but when the cord is large it may be necessary to cut deeper even to a depth of 3 5 or 4 mm From the experience gained thus far it appears that the most superficial fibers in the tract represent the lowest or sacral levels and that the fibers for the segments progressively higher lie deeper in the tract

ALBERT S CRAWFORD M D

Bailey P and Bucy P C Cavernous Hæmangioma of the Vertebræ *J Am M Ass* 1929 xcii 1748

The case of cavernous hæmangioma of the vertebræ reported in this article is the eleventh on record in which the condition was accompanied by symptoms As in all of the cases the condition was diagnosed incorrectly before operation the authors desire to call attention to a roentgen finding hitherto unnoticed which they believe to be pathognomonic namely a reduction in the bone density between parallel vertical trabeculæ showing increased density

In ten of the eleven cases the symptoms were those of cord compression The authors therefore believe that the logical treatment is laminectomy for the relief of pressure This operation is likely to be attended by profuse hæmorrhage which is difficult to control

ERIC OLDBERG M D

introduction of needles into the lumbar subarachnoid space and cisterna magna followed by drainage of the fluid (3) the introduction of warm physiological saline solution into the lumbar region until the returning cisternal solution is clear (4) the injection of antibody and optochin (5) with the cisternal needle in position the bilateral cerebral subdural injection of from 5 to 10 c cm of the mixture mentioned and (6) the intravenous injection of 50 c cm of the antibody solution or serum

This method failed in five cases of advanced and severe meningitis probably because of blockage of the cerebral subarachnoid space by plastic exudates GEORGE R MCMILLEN M D

Van Wagenen W P Elastic Tissue in Meningeal Fibroblastomata So Called Dural Endotheliomata *Arch Surg* 1929 xvii 1621

Van Wagenen demonstrated the presence of elastic tissue and fibroglia fibrils in a meningeal fibroblastoma (meningioma or dural endothelioma) He is convinced that these fibers are primarily of tumor origin and not outgrowths from the attached dura or the intraneoplastic blood vessels The formation of this tissue by the tumor cell he believes is further proof of the fibroblastic nature of meningeal fibroblastomata LEO M DAVIDOFF M D

Zeller The Surgical Treatment of Meningitis (Die chirurgische Behandlung der Meningitis) *Jahrsch der ges Forhild* 1928 xix 53

The author reviews recent articles on meningitis discussing in particular the work of Zange

He states that a diagnosis of serous meningitis is not warranted when there is only an increase in the amount of cerebrospinal fluid and the intracranial pressure and no increase in the cell or albumin content of the fluid Serous meningitis is characterized by a clear cerebrospinal fluid with an increase in the albumin content and the number of cells the latter chiefly a lymphocytosis Suppurative meningitis is characterized by polynucleosis Least favorable for radical removal of the primary focus of an acute suppurative meningitis are the conditions in the middle cranial fossa Also unfavorable are foci at the apex of the petrous portion of the temporal bone to which access can be gained only by the extremely dangerous operation through the inner ear Cases of this type should be left to spontaneous healing after exenteration of the middle ear

Conditions are more favorable in the region of the lateral and anterior cranial fossæ when immediate exenteration of the middle and inner ear at one stage is possible Tapping of the suboccipital fluid for examination is held by some surgeons to be entirely harmless and by others to be associated with the danger of generalizing a still circumscribed meningitis In tapping it is necessary to watch for the signs of cerebrospinal fluid block

In the treatment of suppurative meningitis the first task is the radical removal of the source of the infection Thus in a case of infected fracture of the base of the skull involving the ear an immediate radical operation extending beyond the region of the inner ear is necessary To overcome the meningitis removal of the products of inflammation and lowering of the abnormally high pressure are essential The measures used are lumbar puncture suboccipital puncture puncture of the lateral ventricle and puncture of the corpus callosum In some cases lumbar drainage by resection of the arches of the third and fourth lumbar vertebræ has proved of value Irrigation of the ventricle to the lumbar opening has been found not without danger even when neutral fluids are used The value of urotropin seems to have been sufficiently demonstrated The perfusion of nitrous oxide or acetylene into the subarachnoid space and the ventricle has been proved quite harmless In epidemic meningitis specific therapy in the form of meningococcus serum appears to be of value but in pneumococcus meningitis the results of such treatment have not been entirely satisfactory

Of importance in the general treatment are the use of sedatives and the position of the patient

Since the results of the treatment of acute suppurative meningitis are very poor the author emphasizes the importance of prophylaxis In labyrinthogenic meningitis the incidence of cure after the single-stage operation—immediate exenteration of the middle ear—is 65 per cent and after the two stage operation only 22 per cent

BERGEMANN (Z)

Rutherford C W L Congenital Unilateral Paralysis of the Motor Oculi *Am J Ophth* 1929 xii 36

The case reported was that of a twelve year old girl who was successfully operated upon for spina bifida at the age of three years but otherwise had a negative history The patient consulted the author for the correction of ptosis of the right upper lid and rotation of the right eye nasally and upward Examination revealed spasticity of the medial rectus paresis of the levator and superior and inferior recti and paralysis of the inferior oblique

The author believes that the lesion responsible for this condition was probably not located in the peripheral oculomotor nerve since a lesion in that location would have caused involvement of the intrinsic musculature which was spared As there were no conjugate disturbances he believes that a supranuclear lesion may also be ruled out. Therefore the lesion was probably in one of the cell masses making up the oculomotor nucleus on the affected side

LEO M DAVIDOFF M D

Peet M M Postherpetic Trigeminal Neuralgia Persistence of Pain After Section of the Sensory Root of the Gasserian Ganglion *J Am M Ass* 1929 xcii 1593

Peet reports 2 cases of postherpetic trigeminal neuralgia He discovered only 3 such cases among

The application of modern methods of study to this problem are certain to yield the further needed information regarding the mechanism of compensation between the three elements filling the cranial and spinal cavities namely cerebrospinal fluid blood and nervous tissue

These methods must be standardized and checked against known and accepted physiological data

ALBERT S CRAWFORD M D

Spurling R G Cerebrospinal Fluid Changes in Composition and Drainage After the Intravenous Administration of Various Solutions *Arch Surg* 1929 xviii 1763

The author performed a number of experiments upon barbitalized dogs in which the cisterna magna has been on free and constant drainage through a large gauge needle With such preparations he studied the effect of the intravenous injection of various isotonic hypotonic and hypertonic solutions on blood dilution the rate of cerebrospinal fluid secretion and the composition of the cerebrospinal fluid The results obtained may be summarized as follows

Isotonic solutions diluted the blood and cerebrospinal fluid and increased the rate of secretion of the cerebrospinal fluid

Hypotonic solutions produced the same general effects as Ringer s solution The injection of the same amounts of distilled water seemed to have little or no effect upon the phenomena studied

Hypertonic solutions at first produced dilution of the blood and increased the rate of secretion of the cerebrospinal fluid The effect on the secretion rate was then immediately reversed and the cerebrospinal fluid became concentrated through absorption of the injected substance (sodium chloride or dextrose) and loss of water

In the case of one animal the injection of 100 c cm of a 15 per cent sodium chloride solution caused cessation of the cerebrospinal fluid production and the ventricles were outlined in the roentgenogram by air sucked back spontaneously through the needle

ERIC OLDBERG M D

PERIPHERAL NERVES

Boehmig R Ascending Peripheral Nerve Degeneration Due to Trauma (Ueber aufsteigende periphere Nervendegeneration durch Trauma) *Arch f path Anat* 1928 cclxx 429

The case reported was that of an epileptic thirty seven years old who was found on January 10 1928 in a dazed condition lying on the edge of the bed The *right arm was swollen as far up as the elbow and in* the right axilla extending as far as the back there was a red streak Pressure marks were found on the skin of the medial surface of the right upper arm *and on the apposing surface of the chest The condition was ascribed to a nocturnal* epileptic attack

During the next few days the swelling of the arm increased No fracture could be found Thrombophlebitis was suspected

Four weeks later median radial paralysis developed and the general condition became worse The temperature was subfebrile Death occurred on April 5

Autopsy revealed confluent bronchopneumonia in both lungs and verrucous endocarditis The right brachial plexus was excised and examined microscopically The ulnar nerve and the greater part of the median nerve were unchanged but the radial nerve and one bundle of fibers in the median nerve exhibited extensive degenerative alterations The remnants of the fiber sheaths showed droplets of sheath substance and vacuolar dilatations Neuritis was excluded as inflammatory changes and scar formation were absent only degenerative changes were found The changes were produced by the trauma either through the crushing or the ischæmia which beginning in the axilla extended upward

BUDE (Z)

Crile G W and Ball R P Primary Nerve Tumors of the Neck and Mediastinum with a Report of Three Cases *Surg Gynec & Obst* 1929 xlviii 449

The authors report three cases of primary nerve tumors arising in tissue from the cervical and thoracic *segments From these and cases reported by* others they draw the following conclusions

1 These tumors are believed to arise from cells which have migrated from the ganglionic crest with the ganglia

2 Only tumors of the earliest undifferentiated type are malignant and those of this type tend to become increasingly differentiated until they reach the adult stage *in which they become benign*

3 The diagnosis may be made if the tumor is definitely located and the duration of the symptoms caused by it (which is usually long) is considered

4 Early *diagnosis and operative removal are* indicated because of the tendency of the neoplasm to continue to enlarge and envelop surrounding structures X ray and radium therapy are of little value in the treatment of *this type of tumor*

ERIC OLDBERG M D

SYMPATHETIC NERVES

Fulton J F Horner and the Syndrome of Paralysis of the Cervical Sympathetic *Arch S g* 1929 xviii 20 5

*Horner s syndrome is characterized by enophthal*mos narrowing of the palpebral fissure from slight ptosis and slight elevation of the lower lid myosis and certain alterations in the vasomotor control of *the circulation of the face and neck on the affected* side It is seen in conditions in which the cervical sympathetics are paralyzed

Horner was the first to describe the syndrome and to determine its cause in man *Before his report* it had already been studied in animals

Horner was born in 1831 the son of a physician He was educated at Zurich where he was a pupil of Carl Ludwig and in Berlin where he studied under von Graefe Among his friends were Helmholtz and Donders

Important contributions on the relation of the cervical sympathetic chain to the eye were made by Du Petit (1664–1741) Cruikshank (1705) d Alfort (1816) Brachet (1837) Reid (1839) Biffi (1846) Ruete (1847) Budge (1851) Waller (1851) and Bernard (1852) Bernard was the first to make a complete study of the results of section and stimulation of the cervical sympathetic

ALBERT S CRAWFORD M D

Ingraham F D Local Morphologic al Changes Following Section of the Thoracic Sympathetic Nerve Trunk *Arch Surg* 1929 xviii 18 7

Ingraham severed the left thoracic sympathetic trunk of thirty two dogs and seven cats and studied the cut ends histologically after periods ranging from six days to five months He found no neuroma formation in either stump ERIC OLDBERG M D

MISCELLANEOUS

Weed L H Some Limitations of the *Monro* Kellie Hypothesis *Arch Surg* 1929 xviii 1049

The hypothesis that the skull and bony coverings *of the vertebral canal form* a rigid container for the central nervous system has been of interest to anatomists physiologists and neurologists for almost a century and a half In the past three decades it has *been a subject of intensive investigation by workers* in intracranial physiology

The hypothesis seems to be fundamentally sound but has certain limitations It seems to hold *true as regards the cranial cavity* as the latter is practically an intact closed container except for the freely pulsating fontanelles in infancy and the elastic occipitoatlantoid membrane in mammals The spinal tube *on the other hand* is only partially rigid not being held firmly outward and is so constructed that the hydrostatic effect of the contained column of fluid does not make itself felt However the spinal portion of the system is a definitely less important part than the cranial portion

The application of modern methods of study to this problem are certain to yield the further needed information regarding the mechanism of compensation between the three elements filling the cranial and spinal cavities namely cerebrospinal fluid blood and nervous tissue

These methods must be standardized and checked against known and accepted physiological data

ALBERT S CRAWFORD M D

Spurling R G Cerebrospinal Fluid Changes in Composition and Drainage After the Intravenous Administration of Various Solutions *Arch Surg* 1929 xviii 1763

The author performed a number of experiments upon barbitalized dogs in which the cisterna magna has been on free and constant drainage through a large gauge needle With such preparations he studied the effect of the intravenous injection of various isotonic hypotonic and hypertonic solutions on blood dilution the rate of cerebrospinal fluid secretion and the composition of the cerebrospinal fluid The results obtained may be summarized as follows

Isotonic solutions diluted the blood and cerebrospinal fluid and increased the rate of secretion of the cerebrospinal fluid

Hypotonic solutions produced the same general effects as Ringer s solution The injection of the same amounts of distilled water seemed to have little or no effect upon the phenomena studied

Hypertonic solutions at first produced dilution of the blood and increased the rate of secretion of the cerebrospinal fluid The effect on the secretion rate was then immediately reversed and the cerebrospinal fluid became concentrated through absorption of the injected substance (sodium chloride or dextrose) and loss of water

In the case of one animal the injection of 100 c cm of a 15 per cent sodium chloride solution caused cessation of the cerebrospinal fluid production and the ventricles were outlined in the roentgenogram by air sucked back spontaneously through the needle

ERIC OLDBERG M D

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Prym P Pseudo Adenoma Adenoma and Mastoma of the Female Mammary Gland Studies of the Origin of Circumscribed Adenoma Like *Areas in the Mammary Gland and the Resemblance of True Adenoma and Fibro Adenoma to Mammary Gland Tissue* (Pseudoadenome Adenome und Mastome der weiblichen Brustdrüse Studien ueber die Entstehung umschriebener adenomaehnlicher Herde in der Mamma und ueber die Nachahmung des Brustdrüsengewebes durch echte Adenome und Fibroadenome) *Beitr z path Anat* 1928 lxxxi 1 221

The author calls attention to the frequent occurrence in the female mammary gland of circumscribed areas resembling fibro adenoma which are very difficult to distinguish from true tumors While these formations are usually well outlined against the surrounding tissues they are not as sharply delimited as most adenomata or fibro adenomata Other factors indicating that they are not of a neoplastic nature are their relationship to the duct system of the adjoining mammary gland the occurrence of marked retrogressive processes in the epithelium with a marked reactive formation of new blood vessels, and the agreement of the arrangement of the elastic tissue in these areas with that in the adjoining mammary gland While these findings are not demonstrable in all tumors a neoplastic character may certainly be excluded when the areas are permeated by islands of fatty tissue

These areas resembling adenomata are evidently the result of regressive and growth processes probably caused chiefly by hormonal stimulation but partly also by the glandular tissue of the breast

In a large series of cases the author was able to demonstrate a regular sequence of development from the simple tubular adenoma or fibro adenoma arising from the ducts to foci which presented budding processes and lobule formation and those showing a highly developed fibro adenoma with the formation of glandular areas and very closely resembling mammary gland tissue

Prym calls the fully developed simple tubular tissue a mastoma This term does not include the diffuse fibro adenomatous change in the breast It is applied only to a circumscribed new formation with a structure closely resembling that of a normal or slightly changed mammary gland Prym reports four such cases He states that it is often difficult to distinguish these mature adenomata from ectopic or excluded mammary gland tissue The most important characteristic is fatty tissue Fat is never found in the interstitial tissue of true adenomata In ectopic mammary tissue on the other hand it is frequently present

ROSENBERG (Z)

Kueckens H Rare Forms of Mammary Tumors Epidermoid Cysts Carcinoma Hæmorrhagicum Carcinoma Psammosum, Carcinosarcoma Multiple Carcinomata (Ueber seltenere Formen von Mammageschwuelste Epidermoid cysten Carcinoma hæmorrhagicum Carcinoma psammosum Carcinosarcoma multiple Carcinome) *Beitr z pathol Anat u z allg Path* 1928 lxxx, 116

The tumors described by Kueckens were as follows

1 Three subepidermoidal atheromatous cysts the size of a pea which were located in the areola of the nipple

2 Two early carcinomata of the breast In one case the neoplasm was the size of a pea In the other there were extensive glandular metastases although the tumor was small The author states that the removal of tissue from the breast for histological examination to determine whether carcinoma is present is unreliable and that small tumors often have an unfavorable prognosis because of early metastasis and a tendency to recur

3 A so called hæmorrhagic carcinoma This tumor had probably been subjected to a squeezing injury which led to its partial destruction by hæmorrhage At any rate about 250 c cm of dark brown fluid were present in its hollow spaces

4 A carcinoma psammosum with a deposit of calcium salts in the center of the carcinoma cells The patient was a man sixty five years of age

5 A carcinosarcoma of the breast in a woman forty-eight years old This tumor was the size of a plum and grayish white It was situated in the subcutaneous fatty tissue about 2 cm below the skin. Histological examination showed carcinoma and sarcoma cells The sarcomatous portion consisted of spindle cell between which there were giant cells The carcinomatous portion was partly of the glandular and partly of the squamous cell type In the author's opinion the carcinoma was the primary lesion and caused a marked proliferation of the connective tissue which subsequently underwent sarcomatous degeneration

Kueckens reviews twenty cases of carcinosarcoma of the breast which are reported in the literature From this review it is evident that there are various opinions as to the histogenesis of these tumors Meyer classified the neoplasms into three groups as follows (1) combination tumors which are true mixed tumors with a single origin (2) composition tumors which are of different origins but related to one another such as primary carcinoma with secondary sarcomatous formation and primary sarcoma with carcinomatous change and (3) collision tumors which are of independent origin.

BRUETT (Z)

TRACHEA LUNGS AND PLEURA

Laurell H The Significance of So Called Ring Shadows in the Lungs (Ein Beitrag zur Deutung der sogenannten Ringschatten in den Lungen) *Acta radiol* 1929 x 72

The author discusses the genesis of pleuropul monary annular shadows especially those which are transient

He states that transient annular shadows some times correspond to tuberculous cavities which vary in form and size and distinctness in the roentgeno gram with variations in the pressure within them They are produced also by large interstitial sub pleural and interlobular emphysematous vesicles and perhaps may be caused by bullous emphyse matous vesicles under pressure

Typical annular shadows cannot be produced by encapsulated pleurisy but possibly though rarely may be caused by an encapsulated pneumo thorax

Duval P Quenu J and Welti H Extrapleural Thoracoplasty by the Axillary Route Operative Technique (La thoracoplastie extra pleurale par voie axillaire technique operatoire) *J de chir* 1928 xxxii 641

The Brauer Friedrich and Sauerbruch techniques for thoracoplasty involve very extensive denudation of the thorax with section of many muscles and vessels They therefore cause considerable operative shock and disfigurement To overcome these ob jectionable features the authors have adopted the axillary route By their technique the ribs are exposed in their entire length only one muscle is cut and most of the dissection is carried out in a bloodless plane of cleavage Two special instruments are required a periosteal elevator and a costotome both very long and suitably curved

The patient is placed on the normal side with the pelvis held fixed and the arm raised over the head The skin is incised parallel with and a little anterior to the border of the latissimus dorsi The latissimus dorsi is exposed and its attachments to the last four ribs are sectioned The upper part of the incision is carried medial to the axillary vessels and onto the pectoralis major The serratus magnus is then ex posed and sectioned close to the costal attachments At this point in the technique the surgeon has reached the plane of cleavage through which the thorax can be exposed posteriorly without section of important structures The scapula the serratus magnus and the latissimus dorsi are retracted pos teriorly and the pectorals are retracted anteriorly The ribs are then resected by the usual technique To expose the first rib an incision of the lower border of the pectoralis major is sometimes neces sary The rib is sectioned immediately lateral to the scalenus anterior

This operation causes minimal deformity of the thorax There is no subsequent scoliosis and the function of the arm and shoulder is in no way impaired

The technique is fully illustrated The article contains also photographs and a roentgenogram of a patient operated upon three years ago

ALBERT F DEGROAT M D

Grabcenko I Teratoid Tumors of the Pleura (Zur Lehre ueber teratoide Pleurageschwuelste) *Nov hir Arch* 1928 xv 519

A forty five year old woman was admitted to the hospital because of a suppurative fistula beneath the left shoulder blade of five years duration and a recurrent sarcoma in the subcutaneous tissue in the region of the right scapula She had been oper ated upon twice elsewhere for empyema on the left side and the fistula left after the operations for empyema had repeatedly closed spontaneously and re opened

Examination revealed slight dullness impaired breath sounds and a scarcely noticeable roentgen shadow under the left scapula At operation (resec tion of three ribs and enlargement of the pleural fistula) a round partially hair covered tumor the size of a hen s egg was found attached by a pedicle to the parietal pleura of the lateral chest wall Re moval of the tumor was followed by smooth recov ery Microscopic examination showed the neoplasm to be a teratoma The recurrent polymorphous sarcoma had no relation to the pleural tumor

G ALIPOV (Z)

HEART AND PERICARDIUM

Kahn M H and Kahn S Cardiovascular Lesions Following Injury to the Chest *Ann Int Med* 1929 ii 1013

Because of their superficial position directly be hind the sternum and the adjacent cartilages the heart and pericardium are exposed to danger in injuries to the anterior chest wall Even in the absence of injury to the ribs or external bruising an external blow may produce very serious damage to the intrathoracic structures

The authors review and classify the principal clinical types of traumatic heart lesions that occur in consequence of direct and indirect violence The pericardium may react to a contusion or concussion of the chest with the development of acute peri carditis Auricular fibrillation may follow direct violence illustrative cases are reported Extra systolic arrhythmia may arise following damage pro duced in the cardiac tissue by direct injury to the organ from blunt violence such as blows to the chest or indirect injury such as may be sustained in falls from a height

The functional disturbances or arrhythmia that may develop are determined by the location of the trauma in the myocardial structure The authors report cases of heart block from direct injury to the chest Injury to the front of the chest even without injury to the ribs or obvious external bruis ing may cause rupture of one or more of the valves of the heart

The mechanism of production of such injuries is discussed The most important clinical characteristic is the immediate development of physical signs referable to the valvular lesion Direct violence to the front of the chest frequently causes besides injury to the aortic cusp an injury to the wall of the vessel which results in the formation of a dissecting aneurism A pre existing aneurism may rupture in consequence of direct blunt violence to the thorax

A number of cases in the literature indicate strikingly that small foci of myocardial damage may develop as the direct result of external non penetrating violence It must be recognized that milder injuries of the myocardium may occur which are consistent with life over a varying length of time

Rupture of the heart may follow non penetrating injuries to the chest and violent effort some time after the injury The symptoms of rupture of the heart are in reality the terminal phenomena. They usually consist of the momentary symptoms of collapse and sudden death

The mechanism of the occurrence of death depends upon the intrapericardial pressure When the pressure in the pericardium becomes equal to the pressure in the right auricle blood no longer enters the heart from the systemic veins and death promptly ensues

In a consideration of trauma to the thorax with intrathoracic cardiovascular injury from the point of view of compensability of the accident several important criteria must be established From the standpoint of labor the heart is healthy if the man is able for a long period of time to pursue his occupation without distress and without long periods of absence from work If direct or indirect violence to the chest is followed by signs of an intrathoracic cardiovascular lesion which are incapacitating these signs must be considered the result of aggravation of a previously existing asymptomatic lesion or of damage to a previously normal heart As in heart strain the time that elapses between an accident and the development of disabling symptoms is very short There must be immediate pain with its concomitants—dyspnœa rapid irregular pulse faintness a cold sweat and immediate partial or total disability—to establish clearly a causal or aggravating relationship of the accident to the condition In cases in which temporary improvement with return to the usual or lighter work is followed by recurrence of the condition the re appearance of the symptoms and signs should be attributed to the original injury

Pilcher C The Surgical Significance of Coronary Occlusion Reports of Two Cases *Arch Surg 1929 xviii 2040*

Coronary occlusion though variable in its manifestations has been established as a clinical entity In many cases it can be diagnosed clinically but because of the variability of the symptoms and the frequency with which they suggest other diseases the diagnosis may be extremely difficult and sometimes is impossible Many of the conditions with which coronary occlusion is most often confused are intra abdominal surgical conditions

Pilcher reports two cases of coronary occlusion to illustrate the difficulties that may be experienced in diagnosis even when all facilities are available for a detailed study of the condition

The first case was that of a man fifty five years of age who was admitted to the hospital complaining of severe pain in the upper part of the abdomen A diagnosis of perforated duodenal ulcer was made and the patient prepared for operation Following the administration of 0 015 gm of morphine the abdomen relaxed almost immediately and the patient became more comfortable but as a rise in the pulse rate to 140 and in the blood pressure to 115 systolic and 70 diastolic was considered suspicious operation was delayed Soon occasional weakness of the pulse at the wrist and a peculiar systolic click at the apex were noted Within two hours these had given way to a definite pulsus alternans and a typical to and fro pericardial friction rub The pulse rate rose to 160 Because of these findings the patient was transferred to the medical service The rapid pulse and the blood pressure which was low for a man of the patient s age were the only factors which could reasonably have caused a doubt as to the diagnosis of an abdominal condition and both of these might have been associated with a fulminating abdominal infection On the medical service the heart rate was kept below 100 with quinidine for two days and after that length of time the drug was no longer necessary One month after his admission to the hospital the patient was discharged with a pulse rate of 70 and a blood pressure of 11 systolic and 62 diastolic

About three months later he was re admitted to the hospital complaining of a sensation of pressure in the chest which had made it necessary for him to stop work He had had no pain and only moderate dyspnœa on exertion His pulse was 165 and his blood pressure 112 systolic and 80 diastolic There was no friction rub the rhythm was regular and no murmurs were heard but the electrocardiographic tracing showed a 2 to 1 auricular flutter with an auricular rate of 3 7 6 The blood pressure dropped to 90 systolic and 60 diastolic and then gradually rose to 124 systolic with 60 diastolic Large doses of digitalis brought the heart rate down to 60 The temperature which was 100 degrees F on the patient s admission to the hospital dropped to normal and the leucocyte count dropped from 14 000 to 7 000

The recurrence of signs and symptoms is explained as being the result of (1) a secondary coronary obstruction or an extension of the old thrombus to involve new coronary branches or (2) exertion which increased the work of the already damaged myocardium sufficiently to upset its rhythm and lower its functional efficiency The absence of pain and a friction rub made acute occlusion unlikely

The second case reported was that of a woman fifty eight years of age who complained of severe epigastric pain which came on suddenly and persisted for twenty four hours without remission For about three years the patient had had occasional vague epigastric distress with eructations of gas after meals and six weeks prior to her admission to the hospital she had had a sudden severe epigastric pain which lasted several hours and ceased spontaneously At the time of her admission to the hospital her temperature was 100 degrees F her pulse 120 and her blood pressure 190 systolic and 130 diastolic The leucocyte count was 7 800 The heart sounds were loud and snapping and at the apex there was a short rough clicking sound which faded into a smooth high pitched systolic murmur at the left border of the sternum The radial and brachial arteries were moderately sclerosed The abdomen presented board like rigidity in its upper half and considerable spasm below the umbilicus

The condition was believed to be either a perforated ulcer or coronary occlusion Because of the latter possibility it was decided to keep the patient under observation for a time The pain was relieved by a large dose of morphine and did not recur During the night the blood pressure fell to 120 and the pulse rate rose to 135 At 7 a m the heart sounds were less loud the systolic rough sound at the apex was louder and longer and a diastolic click was heard During the morning the blood pressure and pulse rate remained constant and the to and fro apical sounds interpreted as a pericardial friction rub became fainter and finally ceased The diagnosis of coronary occlusion was then made definitely and the patient transferred to the medical service

Three days later signs of fluid were noted at the base of the right lung and roentgenograms showed indications of early consolidation at the base and a vague gas shadow under the right side of the diaphragm By means of a needle inserted into the lower portion of the right side of the chest a small amount of clear yellow fluid was removed A few days later roentgenograms showed increased height of the right side of the diaphragm and a large area of gas with a fluid level as its base beneath the diaphragm A diagnosis of subphrenic abscess being made the patient was returned to the surgical service and the first stage of preparation for surgical drainage was carried out This involved resection of a portion of the ninth rib and suture of the diaphragm to the pleura at the margin of an oval area measuring about 6 by 4 cm

During the evening the patient suddenly began to cough up large quantities of foul greenish yellow pus with the characteristic odor of bacillus coli When postural drainage was instituted about 1 500 c cm of pus were evacuated within an hour but in spite of the free drainage the lungs filled up and death occurred four hours after the onset of the cough

It is considered probable that in this case there was an ulcer which perforated into the lesser peritoneal sac and formed a subphrenic abscess which subsequently ruptured through the diaphragm into the bronchus The pericardial friction rub may have been a pleuropericardial rub caused by increased excursion of the heart Its brief duration tends to support this theory

In conclusion the author emphasizes the importance of bearing the possibility of coronary occlusion in mind in the examination of patients complaining of pain in the upper portion of the abdomen E S Platt M D

Beck C S The Effect of Surgical Solution of Chlorinated Soda (Dakin s Solution) in the Pericardial Cavity *Arch Surg* 1929 xviii 1659

In experiments on dogs Beck found that a surgical solution of chlorinated soda injected into the normal pericardial cavity produced a profound reaction The immediate reaction consisted of pain and hæmorrhage The latter was due to erosion of blood vessels The end result of the injection of 40 c cm of the solution into the normal pericardial cavity was pericarditis with effusion or generalized adhesive pericarditis Polyserositis and death sometimes resulted

Purulent pericarditis was produced by allowing the pericardium to become infected after a pericardiostomy had been carried out Irrigation of the infected pericardial cavity with surgical solution of chlorinated soda is not painful and does not produce bleeding The absence of pain and hæmorrhage is due presumably to the protective coating of fibrin which is present on the surface of the pericardium In each experiment in which purulent pericarditis was produced the end result was a marked adhesive pericarditis This seemed to develop similarly in the experiments in which the pericardial cavity was irrigated with surgical solution of chlorinated soda and those in which it was not irrigated

The infected pericardium did not react to surgical solution of chlorinated soda like the normal pericardium In purulent pericarditis the fibrinous exudate must play an important part in protecting the pericardial surface from the effects of the free chlorine In the treatment of purulent pericarditis the solution if used at all should be employed only in carefully selected cases and with great caution Because of its erosive action it should not be allowed to collect in the pericardial cavity An adequate drainage tract is indispensable

Manuel E Lichtenstein M D

ŒSOPHAGUS AND MEDIASTINUM

Scarff G R A Case of Carcinosarcoma of the Œsophagus *J Laryngol & Otol* 1929 xliv 324

Scarff reports a case of carcinosarcoma of the œsophagus with excessive overgrowth of the sarcomatous element and without evidence of metastasis The neoplasm was treated by the application of two 50-mgm tubes of radium screened with 0 5 mm of platinum and enclosed in a thin walled silver

container The container was held in position by a silver wire brought out of the mouth and fixed to the head After its insertion the position of the radium was verified by fluoroscopic examination

As the tumor was believed to be a pure sarcoma it was thought that a large dose of radium irradiation applied for a short time would be more effective than the usual small dose applied for six days After the first application the time of exposure was increasingly reduced because of the danger of perforation through the unaffected and thinned-out mucosa of the œsophageal wall in the neighborhood of the aorta Perforation into the aorta occurred eventually in spite of this precaution but as it took place four months after the last application of the radium and below the growth it was difficult to determine whether the irradiation or the irritation caused by the Soutar tube was chiefly responsible

This case demonstrates the limitations and risks of radium therapy in malignant disease of the œsophagus MERLE R HOOV M D

MISCELLANEOUS

Denk W The Development and Progress of Thoracic Surgery (Entwickelung und Fortschritte in der Thoraxchirurgie) *Wien klin Wchnschr* 1928 II 1673

Denk discusses two important branches of thoracic surgery in which progress has been made in the last few years First he discusses the surgical treatment of pulmonary tuberculosis which comes into consideration chiefly in the unilateral productive form of the condition The method of choice today is the Sauerbruch Brauer thoracoplasty This is indicated only when pneumothorax is impossible When the disease is limited to one upper lobe apicolysis and packing alone may be considered Cavities often necessitate re-operation on the portion of the chest wall which overlies them Bands which prevent the necessary collapse may be divided with the cautery through the thoracoscope or by open operation Phrenicus exeresis has proved unsuccessful as an independent procedure and in many cases comes into consideration only as supplementary operation Tuberculous empyema is to be treated conservatively by aspiration In mixed infections irrigations with rivanol or Pregl s solution are added if these fail Buelau s drainage followed by thoracoplasty is indicated Primary thoracotomy is permissible only in ichorous empyemata The indications are similar in pneumothorax exudates

For the operative treatment of bronchiectasis exact localization and accurate determination of the extent of the condition are essential For these purposes lipiodol filling is of value Only cases with unilateral lesions in which medical treatment has failed are to be considered for operative treatment Bronchoscopic treatment (foreign body) should always be tried In the treatment of unilateral diffuse bronchiectasis involving more than one lobe compression methods come into consideration but give satisfactory results only when the cavity walls are yielding Circumscribed large cavities or complications with abscess or gangrene should be treated by pneumonotomy Unilateral circumscribed bronchiectasis limited to one lobe is suitable for lobectomy The two stage operation is best Less dangerous than lobectomy is transverse resection of the lower lobe KOR TG (Z)

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Turner P and Eckhoff N Inguinal Hernia The Results of Treatment by Simple Excision of the Sac *Guy's Hosp Rep* Lond 1929 lxix 234

The authors review 120 cases in which an operation for inguinal hernia was performed At the time of their study fifteen months after the last of the series of operations a recurrence had developed in 6

Ninety-eight of the operations were done for simple uncomplicated indirect hernia in young persons in whom no muscle defect could be demonstrated Of these 3 were followed by recurrence One of the recurrences developed in a boy eighteen years old and the two others in men past thirty years of age In all of the cases in this group a simple excision of the sac was done through a small incision over the internal ring The external ring was not opened

In seventeen cases a modified Bassini operation was done without division of the external ring In all a truss has been worn for a long time or the hernia was of long duration and had caused secondary weakening of the muscles especially the conjoined tendon A recurrence developed in 2 cases

Of five operations for direct hernia only 1 was followed by recurrence In these cases the gap in the fascia transversalis was sutured and the conjoined tendon sutured to Poupart's ligament

The authors conclude that simple excision of the sac is satisfactory in the cases of children and young adults and may be employed also for hernia in middle aged persons if the cases are carefully selected They emphasize the importance of early operation for hernia LOUIS P GAMBEE M D

Gasparjan A The Results of Injury of the Urinary Bladder During Hernia Operations (Resultate der Harnblasenlaesion bei Bruchoperationen) *Urologija* 1928 v 83

The author has collected from the literature fourteen cases of injury of the urinary bladder occurring in operations for hernia The periods of observation ranged from three months to five years In eight cases the lesion was recognized during the operation In four it was not discovered until after the operation In the reports of two cases the time of its diagnosis was not stated

Only three of the patients were subsequently well One developed a recurrent abdominal tumor six suffered from cystitis and disturbances of micturition one had a phlegmon in the prevesical space and three had bladder stones The mortality in all cases of bladder injury reported in the literature was 27 per cent

Gasparjan states that whenever an operation for hernia is followed by disturbances of micturition cystoscopy is indicated Symptomatic treatment is useless The relief of symptoms usually requires an operative procedure BANYER VOIGT (Z)

Buschmakina M and Pigalew I An Experimental Contribution on the Problem of the Mechanism of the Direct Effect on the Oblongata in Diffuse Peritonitis (Experimentalle Beitraege zur Frage des Mechanismus der direkten Affektionen der Oblongata bei diffuser Peritonitis) *Zischr f exper Med* 1928 lxiii 117

So called local processes can often be explained only by distant or general effects The theory of accelerated resorption in fatal diffuse peritonitis is not entirely satisfactory The symptoms suggest a long continued Goltz percussion experiment Speransky demonstrated that certain substances in the region of the nerve endings enter the nerves and reach the corresponding brain centers by way of their lymph streams which are chiefly centripetal The rapidity of the current may be increased by the production of hypotension (lumbar puncture) Because of its peculiar course and distribution the vagus is affected by variations of pressure associated with respiration

The authors studied the normal course of the current by introducing a drop of coal tar into the cervical portion of the vagus The centrifugal course is more marked than in other nerves for the most part however the direction is centripetal and can be traced to the oblongata (nucleus of the vagus)

To determine the effect of peritonitis both vagus nerves were cut below the diaphragm in a series of rabbits Nearly all of the animals which were fed with oats and hay died of perforation of the stomach Some of those which were fed with white bread milk and fresh vegetables died or remained in a weak condition About half of those subjected to the operation survived Fourteen days later the latter were infected intraperitoneally with a known staphylococcus All of the similarly infected controls died (thirteen after from ten to twenty four hours one after three days and one after five days) Of the devagated animals five remained well three died after from fifteen to thirty five hours and four died after from two to seven days It must be remembered that the animals with preliminary devagation had suffered an operative injury Infection of the peritoneal cavity a few hours after the devagation (four rabbits) was fatal within twenty four hours in every instance Therefore devagation performed shortly before or during the infection rendered the prognosis less favorable BUETTNER (7)

Schomberg Acute Hæmorrhagic Epiploitis Suggesting Acute Appendicitis (Akute haemorrhagische Epiploitis unter dem Bilde einer akuten Appendicitis) *Zentralbl f Chir* 1929 p 43

Schomberg reports three cases in which the clinical picture suggested acute appendicitis but operation revealed severe inflammation of the omentum and hæmorrhagic ascites The cause of the condition could not be determined in spite of careful examination of all accessible abdominal organs In every case resection of the inflamed portion of the omentum was followed by cure

Cokkalis (Z)

GASTRO INTESTINAL TRACT

Garland L H Gastric Motility *Brit J Radiol* 1929 ii 233

By gastric motility is meant that function of the stomach which deals with the reception and discharge of food It is generally believed that the sympathetic nerves inhibit gastric movements through the splanchnics and the vagus excites them Recently it has been shown that the results of vagal and splanchnic stimulation depend chiefly upon the conditions present at the time the stimuli are applied

Pathological variations in gastric motility are often of considerable importance In general it may be stated that delayed motility such as is manifested by a six hour residue is very often indicative of a serious and usually obstructive juxtapyloric lesion and that hypermotility indicated by an emptying time of less than two hours is most frequently associated with non-obstructing lesions such as gastric cancer and postpyloric ulcer

The author quotes from a recent lecture as follows

It is obvious that the disorders of secretion whether in excess or deficiency (of gastric juice) are of much less importance in the etiology of disease than was formerly supposed but that movement is the function which plays the most significant part in the maintenance of health and the causation of disease

John W Nuzum M D

Friedenwald J and Morrison T H Unusual Types of Pyloric Obstruction *South M J* 1929 xxii 431

The authors classify cases of pyloric obstruction into two main groups those in which the stenosis is produced from without and those in which it is produced by a condition within the pylorus

In Group 1 the adhesions causing the stenosis are ordinarily perigastric or pericholecystic Perigastric adhesions localized at the pylorus may result from gastric or duodenal ulceration gall bladder lesions malignant disease pancreatic disease epigastric hernia traumatism and operations

In Group 2 the stenosis may be of the hypertrophic type or due to a spastic condition associated with a fissure an erosion or a mucosal ulcer at or near the pylorus or to atonic dilatation of the stomach

In addition to these cases there is a small but definite group in which pyloric stenosis occurs as a result of cicatrization from ulceration and the retention symptoms may disappear and the motor function of the stomach may be largely restored to normal by medical treatment alone

John W Nuzum M D

Hundsdoerfer B The Weber Rammstedt Operation and Loreta's Dilatation (Weber Rammstedt'sche Operation und Loretasche Dehnung) *Deutsch Zt ch f Chir* 1928 ccxii 330

Although the good results obtained by the Weber Rammstedt operation have brought the surgical treatment of pyloric spasm to the front as compared with the medical treatment Foramitti and Mandl have again recommended Loreta's dilatation of the pylorus the results of which to date have been poor The author rejects the latter procedure because of its greater danger (opening of the stomach and prolongation of the operation) and its uselessness He states that while dilatation may be successful in cicatricial strictures (urethra) and stenoses caused by external tumors (prostatic hypertrophy) when they are not too narrow and the treatment can be continued for a sufficiently long time in pyloric stenosis the spasm is always dominant and must recur immediately after the dilatation The Weber Rammstedt operation is never inadequate as the proponents of dilatation claim and is never followed by recurrence Insufficiency occurs only from overdistention of the stomach and this can be overcome only by gastro enterostomy and not by dilatation of the pylorus

Sievers (Z)

Aschoff L Peptic Injuries of the Gastro Intestinal Tract (Ueber die peptischen Schaedigungen des Magen Darmkanals) *Med Klin* 1928 ii 1931

In the development of acute ulcers and erosions of the stomach mechanicofunctional and circulatory disturbances probably play a rôle but the most important factor is the digestion of a circumscribed portion of the mucosa by the gastric juice This has been proved by experiments on rats in which the stomach and upper portion of the duodenum were subjected to the action of gastric juice which was rendered very strong by hunger and the administration of histamine Such experiments led to the formation of ulcer in the rat's ante stomach which is lined with pavement celled epithelium as well as in the duodenum In the development of the lesion there is always first a superficial injury of the epithelium Accordingly the gastric juice first attacks the mucosa from the surface When ulcers occur in islands of gastric epithelium in Meckel's diverticulum they appear at the margin of these islands contiguous to the mucosa of the small intestine

In the stomach it is necessary to distinguish between the Magenstrasse with the pyloric portion (pyloric glands) and the rest of the stomach (the

fundus glands) A zone of pyloric glands is present also in the form of a ring just below the cardia Analogous to these are Brunner s glands in the upper part of the duodenum which extend up to the entrance of the bile duct The fundus glands are situated only on the greater curvature This is the site of specific gastric juice formation the source of the gastric juice containing hydrochloric acid and pepsin All other parts of the stomach are unspecific regions of mucous membrane

Digestion by the gastric juice formed by the fun dus glands occurs most frequently in the unspecific regions of mucosa The mucosa of the greater curva ture seems to be well protected against the effects of the juice As the digesting gastric juice is continu ously carried along the Magenstrasse into the duodenum this portion is especially exposed to its digestive action In many cases local circulatory disturbances and small hæmorrhages in the mucosa doubtless play a role Such hæmorrhages are not rare in appendicitis abdominal operations and cerebral disease and may be caused also by emboli or reflex vascular spasms However peptic injury is the primary factor and hæmorrhage is secondary

In Aschoff s opinion the great majority of chronic ulcers are due to the prolonged action of the gastric juice on superficial lesions in the mucosa and not to primary infarct formation When the defects occur in the Magenstrasse they are never at rest even when the stomach is empty The funnel shape of the stomach is due to peristalsis and pulling up of the penetrated muscularis mucosæ toward the base of the ulcer It is not caused by an infarct The tip of the funnel directed aborally retains the gastric juice Hence digestion of larger vessels situated in the depths of the funnel is favored The digestive action of the gastric juice is responsible also for the changing of an acute ulcer into a chronic ulcer and its complications

If this theory is correct the prophylaxis and treatment of ulcer must be directed chiefly toward rest and protection in the sense of the old Viennese school GUTZEIT (Z)

Gutmann R A Jahiel R and Theodorescu D Postoperative Peptic Ulcer (Das postoperati e Ulcus pepticum) *Rev chir* 1928 xx 725

In the Gosset Clinic in Paris the authors have observed 19 cases of peptic ulcer of the jejunum In 9 of these cases the first operation was performed elsewhere In 2 cases the primary lesion was un known in 2 it was an ulcer on the lesser curvature and in the others it was an ulcer of the pylorus or duodenum All of the patients were males

During the period of time in which these cases were observed 918 gastro enterostomies were per formed Of these 230 were done for cancer of the stomach (no case of peptic ulcer) 87 for various conditions such as perivisceritis (1 case of peptic ulcer) and 631 for ulcer Of the 594 cases in which a simple gastro enterostomy was performed a peptic ulcer occurred in 9 (1 51 per cent) In the 37 cases in which a resection with gastro enterostomy was done there were no peptic ulcers

The most important clinical characteristics of peptic ulcer are the periodicity and acuteness of the pain The pain periods are like those of gastric and duodenal ulcer They last for from ten days to four weeks and are separated by painless intervals of several months duration The pain is much more severe than that of the original ulcer and occurs chiefly at night or during the second half of the night Vomiting and hæmorrhage are rare The diagnosis is best made by serial roentgenography By this method the authors were able to visualize an ulcer niche in all cases before operation The niche is usually at the site of the anastomosis or in the dis tal loop of bowel It is rarely in the proximal loop

The treatment of peptic ulcer is first of all pro phylactic Pyloric exclusion should be avoided

The authors do not discuss the comparative value of resection and gastro enterostomy but state that a patient with a gastroduodenal ulcer is more apt to die after gastric resection than to develop a peptic ulcer after gastro enterostomy Peptic ulcer has no tendency to heal spontaneously Its treatment must be surgical When the primary ulcer has healed and there is no pyloric stenosis the gastro enterostomy may be undone after resection of the peptic ulcer When pyloric stenosis is present the procedures to be considered are (1) excision of the peptic ulcer plus another gastro enterostomy or a gastroduodenostomy according to the Finney method or (2) an extensive gastric resection plus gastro enterostomy

The article contains a tabulation of the 19 cases and an extensive bibliography WOHLGEMUTH (Z)

Pers A The Results Obtained by Resection in Cancer of the Stomach (Sur les résultats obtenus par la résection dans le cancer de l estomac) *Acta chirurg Scand* 1928 lxiv 405

During the period from 1904 to 1922 the author performed a Billroth II resection in twenty nine cases of cancer of the stomach Eight of the patients died The cause of death was pneumonia in four cases embolism in one case heart failure in two cases and anæmia in one case

The site of the tumor was the pylorus in fourteen cases the lesser curvature in six cases and the pylorus and lesser curvature in nine cases

In nineteen cases the tumor was an *adenocar* cinoma in two a solid carcinoma in three a simple carcinoma in two a colloidal carcinoma and in two a scirrhous carcinoma

Of eighteen patients who survived the operation and died subsequently from recurrence eleven lived for from two to six months four for from one year to eighteen months and three for two years

A definite cure was obtained in three cases One of the patients cured died at the age of seventy one years twenty two and a half years after the opera tion and two are still alive aged sixty three and sixty four years thirteen and a half and nineteen and a half years respectively after the operation

The author states that it is impossible to give a prognosis for operative treatment The chief requisites for a good result are early diagnosis and early resection

Alvarez W C and Hosol K What Has Happened to the Unobstructed Bowel That Fails to Transport Fluids and Gas *Am J Surg* 1929 vi 569

The digestive tract is highly autonomous and the extrinsic nerves serve largely to prevent response to every stimulus After vagotomy or splanchnicotomy peristalsis is often so active that the animal dies of inanition

Normal peristalsis appears to follow gradients of rhythmicity irritability latent period metabolism and muscular strength running from the duodenum to the terminal ileum These gradients might theoretically be reversed either by raising the irritability of the lower end of the gut or by depressing that of the upper end

It may perhaps be stated as a law that irritation at any point in the bowel tends to slow the progress of material coming from the stomach toward it and to hasten the progress of material moving caudad away from it *If* the irritation is severe enough the result is an emptying of the digestive tract both ways from the lesion with vomiting and diarrhœa

When in rabbits enough turpentine was injected into the tissues about the ileocæcal sphincter to produce considerable injury the animals suffered from diarrhœa and the colon was emptied The ileum was emptied orad and food residues were held back in the duodenum Peristaltic rushes were few they were difficult to start and were slowed and stopped in the lower bowel

The whole bowel was unusually sensitive to faradic stimuli and in most of the experiments the normal gradient in irritability from the duodenum to the ileum was reversed With increased irritability of the bowel the latent periods were shortened and the fact that this change was more marked in the lower part of the ileum than in the duodenum caused the normal gradient (in latent period) to be flattened

Segments of gut excised from the injured animals and placed in warm aerated Locke's solution behaved normally showing that the failure of the bowel to pass its contents onward was not due to injury to the muscle

Chemical injury to the ileocæcal region in animals with vagi and splanchnics cut and much of the conducting system in the bowel degenerated still produced back pressure in the small bowel and marked slowing of rush waves This observation suggests that the flattening of gradients has something to do with the failure of conduction

The findings of these experiments suggest that in the treatment of dynamic ileus attempts should be made first to remove nervous inhibition perhaps by splanchnic blocking or spinal anæsthesia and second to restore the normal dynamic gradient by giving food and by avoiding the use of morphine and irritation of the lower bowel

The various methods of inducing peristalsis postoperatively are briefly reviewed

Morton J J The Differences Between High and Low Intestinal Obstruction in the Dog An Anatomical and Physiological Explanation *Arch Surg* 1929 xviii 1119

As shown by tests made in the duodenum and ileum of the dog high intestinal obstruction is more toxic than low intestinal obstruction The author offers the following explanation

1 There is a greater capillary bed in the duodenum which may take up and retain larger amounts of toxin than a similar loop of ileum

2 The fluid secretion rate is much greater in the duodenum than the ileum the intra-enteric pressure in the duodenum being therefore greater

3 The possibility of pressure necrosis is greater in the duodenum than the ileum

4 The increased intra-enteric pressure squeezes out the retained toxins into the general circulation more quickly than the body can detoxify them

5 In simultaneous equal closed loop obstructions of the duodenum and ileum with a lethal outcome perforation if it occurs always takes place in the duodenum rather than the ileum this indicating the greater secretory hydrostatic pressure developed in the high segments of the intestine

SAMUEL KAHN M D

Copher G H Stone C S and Hildreth H R The Use of Bacillus Welchii (Perfringens) Antitoxin in Experimental General Peritonitis and Intestinal Obstruction *Ann Surg* 1929 lxxxix 641

McIver M A White J C and Lawson G M The Rôle of the Bacillus Welchii in Acute Intestinal Obstruction *Ann Surg* 1929 lxxxix 647

COPHER STONE and HILDRETH believe that anærobic as well as ærobic bacteria play a rôle in the production of the toxæmia of intestinal obstruction In experiments on dogs with acute general peritonitis and intestinal obstruction they were able to prolong life by the use of bacillus welchii antitoxin According to both their own experimental work and that of Williams a further trial of bacillus welchii antitoxin is warranted in clinical cases of acute general peritonitis and intestinal obstruction They therefore conclude that the early and adequate administration of the antitoxin should be employed in addition to surgical intervention as a supplement to such well established methods of treatment as lavage and the copious administration of saline and dextrose solutions to combat hypochloræmia starvation and dehydration

From their findings in experiments on cats in which a loop of intestine was closed and its veins were ligated McIVER WHITE and LAWSON conclude that although the bacillus welchii was present in the obstructed loop in large numbers it did not play an im

portant part in the production of the fulminating toxæmia They believe caution is necessary in accepting the bacillus welchii as the chief agent in the types of intestinal obstruction in man which are characterized by toxæmia and emphasize that the use of bacillus welchii antitoxin in the treatment of such cases is still to be considered in the experimental stage SAMUEL KAHN M D

Daniels A Chronic Intestinal Invagination (Chronische Darminvagination) *Arch f klin Chir* 1928 clui 16

Acute intussusception is relatively frequent in children but rare in adults whereas chronic invagination of the bowel is more common in adults than in children Chronic invagination has been attributed to spasm and to paralysis but paralysis is considered the more probable cause According to Fromm spastic ileus with subsequent invagination may be produced by abdominal contusions intestinal worms ulcers colitis tumors and in rare instances hysterical cramps Important signs of the condition are tenesmus with the passage of blood from the anus a sausage shaped tumor in the abdomen and evidences of intestinal obstruction Fever and rigidity of the abdominal wall are usually absent at the outset The condition varies in its duration but has been known to persist for years

When possible the treatment should be resection This is not advisable in all cases however since there are instances in which an ileocæcal fistula will be more satisfactory Recurrences after operation are uncommon Fixation of the bowel is not considered necessary

The author reports three cases operated upon in the Hedwig Hospital in Berlin since 1922 One patient died and two recovered In one case the condition was due to the implantation of tuberculous nodules and in another to a carcinomatous tumor In the third the cause could not be discovered RIESS (7)

De Vadder A Study of Duodenal Stasis (Étude sur la stase duodénale) *Rev de chir* Mar 1928 xlvii 477

The author reports thirty cases of duodenal stasis in detail and discusses the X ray findings and the anatomical basis of the condition

Duodenal stasis has no definite clinical symptoms It usually suggests gall bladder or gastric disease and requires a thorough X ray study for its diagnosis

Operation was performed in twenty eight of the thirty cases reviewed by the author Pylorospasm was found in eighteen In three there was an ulcer of the stomach or duodenum The stomach reacts to the pylorospasm by hypertonia and hyperistalsis or by atonia with phases of violent contraction In either event the peristaltic waves are arrested at the pylorus and if the spasm persists during the examination the state of the duodenum cannot be determined

X ray study shows that stasis affects the bulb and first portion of the duodenum or the second and third portions The first type is termed by the author superior duodenal stasis and the second type inferior duodenal stasis The two types may exist simultaneously the entire duodenum proximal to the crossing of the superior mesenteric artery being dilated (total stasis) or may be separated so that the duodenum has an hour glass appearance

In fourteen cases of superior duodenal stasis in the series reviewed periduodenitis with adhesions was found at operation In seven the stasis was not revealed by fluoroscopic examination

Inferior duodenal stasis occurred in eighteen of the cases reported In all but four there were periduodenal lesions affecting the first portion of the duodenum In one case the stasis disappeared in the ventral position and in another it disappeared in the genupectoral position At operation the duodenum seemed to be compressed by the superior mesenteric pedicle in only six cases

Two varieties of inferior stasis are distinguished The first is due to compression by the mesenteric artery and is relieved by the genupectoral position The second is due to periduodenitis and is not relieved by the genupectoral position The author s single case relieved by the genupectoral position showed periduodenal lesions at operation contrary to the usual findings in such cases

The lesions associated with duodenal stasis are nearly always the same—inflammatory adhesions between the liver gall bladder duodenum and colon and beneath these adhesions immediately about the duodenum which are of more importance The duodenum is dilated When the third portion is examined by raising the colon the dilatation is seen to be proximal to the superior mesenteric artery

The stomach may show ptosis or dilatation or both The ptosis is best revealed by the horizontal position of the pyloric ring

Many of the duodenal adhesions have a definite anatomical origin They represent abnormal development of the right portion of the cavity of the great omentum To this is added an inflammatory element The adhesions extend from the lesser omentum over the duodenum to the great omentum

Other adhesions may extend from the inferior surface of the right lobe of the liver over the second portion of the duodenum to the upper surface of the mesocolon Again the first angle of the duodenum may be adherent to the neck of the gall bladder the resulting elongation of the first portion of the duodenum being very evident in the X ray picture when the patient is in the upright position The adhesions are not caused by gall bladder disease as the gall bladder is always found normal

In ten of the cases reported the space beneath the superior mesenteric pedicle was restricted this restriction offering an obstacle to evacuation of the duodenum In four cases the obstruction was not noted in the fluoroscopic examination In seven

The author states that it is impossible to give a prognosis for operative treatment The chief requisites for a good result are early diagnosis and early resection

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From their findings in experiments on cats in which a loop of intestine was closed and its veins were ligated MCIVER WHITE and LAWSON conclude that although the bacillus welchii was present in the obstructed loop in large numbers it did not play an im

the roentgenological examination was indicative of tumorous infiltration of the intestine but no cancer was found

A comparison is made of the reliability of the clinical findings on the one hand and the roentgen findings on the other The findings of both the clinical and roentgenological examinations were regarded as positive when a diagnosis of cancer tumor infiltration intestinal obstruction or organic stenosis was made From this point of view the roentgenological examination was positive in 86 per cent of the cases and the clinical examination in 56 per cent In the operable cases the roentgenological examination was positive in 91 per cent and the clinical diagnosis in 48 per cent whereas in the inoperable cases the roentgenological examination was positive in 82 per cent and the clinical examination in 70 per cent In the advanced inoperable cases in which roentgenological examination yielded uncertain results the clinical examination was positive

The methods therefore supplemented each other Of the total number of fifty three cases of cancer only two came to operation with a doubtful diagnosis after combined roentgenological and clinical examination The clinician receives most aid from roentgenological examination in cases of operable tumors of the sigmoid transverse colon and cæcum

Newton Carcinoma of the Colon *New Zealand M J* 1929 xxviii 83

Newton reviews 81 cases of carcinoma of the colon admitted to the Melbourne Hospital in the period from 1921 to 1925 During the same period 159 patients with carcinoma of the stomach with carcinoma of the appendix and 3 with carcinoma of the rectum entered the institution

The site of the cancer of the colon was the cæcum in 8 cases the ascending colon in 1 case the hepatic flexure in 4 cases the transverse colon in 8 cases the splenic flexure in 5 cases the descending colon in 9 cases the upper sigmoid in 15 cases and the lower sigmoid in 31 cases The average age of the patients was fifty seven years

Massive fungating carcinomata were one and one half times more common than carcinomata of the annular type Ulcerative carcinomata were comparatively rare Of the growths of the fungating type 41 per cent were operable whereas of those of the ring type 60 per cent were operable The average duration of symptoms in the operable cases was seven months Acute obstruction was present in 44 per cent of the cases of carcinoma in the left half of the colon but in only 1 of 13 cases of cancer of the right half of the colon All patients with perforation died except 1 in whom the rupture was extraperitoneal

Three out of 4 patients with cancer of the right half of the colon recovered following radical operation In cases of cancer of the left half of the colon in which end to-end anastomosis was done after a preliminary cæcostomy the mortality was 20 per cent Of 2 patients subjected to the Paul Mikulicz operation both recovered Of 11 patients traced after operation 6 had died and 5 were living four five five and a half six, and seven years respectively after the operation

The early symptoms of carcinoma of the colon are indefinite and frequently are not severe enough to cause the patient to seek medical advice They consist of slight changes in the habitual action of the bowels and mild attacks of abdominal pain The bowel habit may be interrupted by attacks of constipation or diarrhœa It is frequently an ominous sign when these symptoms occur in a patient in the cancer age whose bowel habit has previously been regular Abdominal pain is due to increased peristalsis and is usually located below the umbilicus Abdominal examination may reveal a tumor due either to a large cancer or to fæces above the obstruction Visible peristalsis may be present Rectal examination should never be omitted

Sigmoidoscopic examination is of value in cases of high cancer The presence of occult blood in the stools and of severe anæmia are very suggestive findings The most valuable aid in the diagnosis is the barium enema A persistent filling defect demands exploratory operation

The author has had no experience with radiation therapy in cancer of the colon The two great dangers in the surgical treatment are infection from manipulation of the tumor and the adjacent infected bowel and leakage from the suture line If the cancer involves the right half of the colon resection of the cæcum and ascending colon with lateral anastomosis of the terminal ileum to the transverse colon is the operative procedure of choice In the treatment of cancer of the left half of the colon an operation performed in stages is necessary The Mikulicz operation is the safest and gives good results For severe cases of acute obstruction due to cancer a blind cæcostomy is the best procedure In the choice of operation both the local and the general condition must be considered

JOHN W NUZUM M D

Goetsch E The Diagnosis and Surgical Treatment of Carcinoma of the Colon *Arch Surg* 1929 xviii 998

The symptoms of carcinoma of the colon are dependent largely upon the extent of the lesion They vary from those of frank intestinal obstruction with marked toxæmia to disturbances of a very mild character Among the most common symptoms are lack of appetite progressive loss of weight mild colicky pains pallor weakness and anæmia Progressive constipation is frequently but not always present The more advanced stages of the condition are associated with the appearance of visible peristaltic waves nausea and vomiting Acute intestinal obstruction may be the first symptom The absence of blood in the stools by no means precludes the presence of cancer of the colon

cases the mesenteric glands were enlarged at this point

There were three cases of hyperplastic peritonitis of which the periduodenitis was only a part

The rôle of these various adhesions does not seem to be purely mechanical In most cases the associated inflammation seems to be the important factor in the causation of the stasis The infection probably has its origin within the duodenum When the intestinal pedicle is found to press on the duodenum the original lesion appears to be an inflammation of the mesentery In seven of the cases reported a lymph adenopathy was present and in ten cases of this group an intra abdominal lesion had been or was still present The most common intra abdominal lesion was appendicitis As the lymphatic drainage of much of the intestine passes by the superior intestinal pedicle this inflammation of the base of the mesentery is easily explained

The operation indicated in the treatment of duodenal stasis is gastropyloroduodeno-enterostomy The technique is not described

ALBERT F DEGROAT M D

Scott W J M The Relationship of Non Absorbable Suture Material to Jejunal Ulcer An Experimental Study *Arch Surg* 1929 xviii 1584

SCOTT states that jejunal ulcers are not caused by non absorbable suture material Although when they began to appear as complications of gastro enterostomy non absorbable sutures were sometimes discovered in their bases and sometimes the suture partially cast off was still adherent in the region of the ulcer the retained suture frequently had no connection with the ulcer and in over one half of the cases the ulcer was away from the suture line The discovery of such a foreign body in the base of a jejunal ulcer was so impressive that little thought was given to whether the non absorbable suture caused the ulceration or was merely exposed as the result of the ulceration

A careful analysis of the clinical evidence does not substantiate the commonly accepted view that the use of non absorbable sutures increases the incidence of jejunal ulcer Ulcers have been found following the use of both kinds of sutures and when non absorbable sutures were employed the ulcer was at some distance from the suture In the early days gastro-enterostomy was accompanied by exclusion of the pylorus and it is now recognized that this combination is followed by a much higher incidence of jejunal ulcer than gastro enterostomy alone

At first when the complication of jejunal ulcer required re-operation most surgeons undid the original anastomosis and made a new gastro enterostomy with catgut The second gastro enterostomy was commonly followed by a new jejunal ulcer Today when operation is necessary in a case of jejunal ulcer nearly all surgeons advise doing away with the gastro enterostomy and either reconstructing the original gastro intestinal pathway or performing a gastric resection This opinion is itself strong evidence that the non absorbable suture material used in the first operation was not the cause of the jejunal ulcer otherwise the formation of a new anastomosis with the use of catgut alone would be a satisfactory operation to cure the complication

In experiments on dogs in which the author produced ulcers similar in their pathological appearance and their development to those occurring after gastro enterostomy in man it was found that the presence of silk suture material retained in the anastomosis did not affect the localization of the process. Although an ulcer formed at a distance of only from 1 to 2 cm from the line of anastomosis and in one instance after a secondary operation the edge of the ulcer was only 2 mm from the line of anastomosis, in no case did ulceration develop about the retained suture

The author concludes that there is no convincing evidence either clinical or experimental militating against the use of non absorbable sutures in gastro-intestinal operations HOWARD A MCKNIGHT M D

Newton F C Acquired Diverticula of the Colon A Study of the End Results in Forty Four Cases *Arch Surg* 1929 xviii 1339

Acquired diverticula of the colon may give rise to such serious complications that even their incidental discovery calls for careful prophylactic measures and medical supervision The importance of the establishment of regular and spontaneous evacuation to prevent inspissated bits of faeces from becoming lodged in the diverticula should be emphasized Frequent efforts to change or improve the intestinal flora reduce the chance of infection within the pouches Mineral oil taken regularly will help to prevent constipation and consequent straining at stool with its very undesirable increase in intracolonic pressure High pressure enemas should never be given A surgical emergency may develop at any moment but even on the appearance of the signs of inflammation and a tender mass conservative measures may be sufficient to overcome the acute attack Surgical intervention before abscess formation can do very little good

When true diverticulitis develops plans should be made for operation at a suitable time Resection should be done if possible If the disease is spread over a wide area a colostomy or anastomosis around the affected bowel may be the only feasible solution of the problem In the serious cases complicated by fistula abscess or local peritonitis simple drainage of the infected area is the only procedure permissible

HOWARD A MCKNIGHT M D

Renander A The Value of Roentgen Diagnostics in Cancer Coli *Act chirurg Scand* 1928 lxv 417

This article is based on fifty three cases of cancer of the colon which were examined roentgenologically and operated upon at the Serafimerlasarettet during the period from 1914 to 1926 and ten case in which

direct Van den Bergh test seemed to be about as valuable as the Fouchet procedure in indicating the probable meaning of increased yellow color of the serum but in general the Fouchet test was the most specific The authors believe that even in the presence of an increased icterus index a positive diazo reaction with a negative oxidation test is not indicative of increased bilirubin They especially urge caution in attaching significance to variations in the direct Van den Bergh test and suggest that the Fouchet and icterus index procedures be carried out in cases showing such variations

None of the three tests could be safely relied upon to demonstrate the presence of a pathological condition conclusively but when the three were combined they offered fairly reliable checks upon each other STANLEY H MENTZER M D

Reinbold J G and Kraaer F L The Reaction of Human Bile and Its Relation to Gall Stone Formation *J Exper M* 1929 xlix 681

In studies of bile aspirated from human gall bladders *in situ* during or immediately after operation while the clamps were still on the cystic duct the authors found that in biliary systems free from obstruction and calculi the hydrogen ion concentration of bile from the gall bladder varies between 7 10 and 7 30 In the presence of stones which produce no obstruction there is no definite variation but in the presence of obstruction the acidity is increased In complete obstruction of the common or cystic duct the value is about pH 6 40

The increased acidity of the bile in the obstructed biliary system indicates that the human gall bladder acidifies bile as in the presence of obstruction the length of time that the bile is exposed to the action of the gall bladder is prolonged LARL GARSIDE M D

Tada Y The Excretion of Dyes from the Liver and the Kidneys I Their Relation to the Diffusibility of Dyes II On the Compensatory Function of the Kidneys of Animals for Eliminating Dyes After the Ligation of the Common Duct III On the Compensative Function of the Liver in the Elimination of Dyes in Animals in Which the Renal Arteries and Veins Are Ligated IV On the Relation Between the Concentration of Dyes in the Blood Stream and the Concentration of Excreted Dyes *Acta schol med univ imp* Kioto 1928 xi 193 231 243 53

The author has studied the renal and hepatic excretion of sixty-one dyes selected from the mono azo dis azo triphenyl methane and other groups The work was carried out on dogs with a biliary fistula (cannula in the gall bladder with the common duct ligated and divided) and a urinary fistula (cannula in the urinary bladder) The quantitative determinations were made by means of the Duboscq colorimeter A standard dose of 1 c cm of 1 per cent solution per kilo was given by the intravenous route (ear vein) except in the experiments dealing with the excretion of large doses

Twenty four of the dyes including eosin phloxin erythrosis and anilin blue were excreted entirely or almost entirely by the liver Only four—azo cochineal victoria violet acid fuchsin and lithion carmine—were excreted for the most part by the kidneys The remainder were excreted by both the liver and the kidneys in relatively equal amounts

It was found that the kidney was able to excrete only dyes with a high diffusibility whereas the excretion by the liver showed no relation to the diffusibility The dis azo dyes studied were excreted chiefly by the liver Acid and basic dyes were usually excreted by both the kidney and the liver Dyes having a high diffusibility were excreted faster than those with a slow diffusibility A few dyes could not be recovered in either the bile or the urine The author assumes that these were conjugated in such a manner that the dye property was lost

In experiments carried out to determine the ability of the liver to compensate for absence or deficiency of the renal excretory apparatus and vice versa it was found that a dye which was normally excreted by both the kidney and liver appeared in the bile in much larger amounts if the renal vessels and ureters were ligated and appeared in the urine in much larger quantities if the common duct was ligated However the dyes including congo red and benzopurpurin which were excreted almost solely by the liver and not at all by the kidney did not appear in the urine even in small quantities when the common duct was ligated Likewise lithion carmine which was excreted by the kidney and not by the liver did not appear in the bile even if the renal arteries and ureters were ligated

When the dose of a dye which was normally excreted by both the kidney and liver was increased there was an increase in the output in both the bile and urine However the ratio of the amounts appearing in the bile and urine always remained relatively constant The rate of excretion also remained constant as long as a given dose was used WARREN H COLE M D

Brill S Glycogenolysis Due to Epinephrin in Hepatic Disease *Arch Surg* 1929 xviii 1803

The author presents a study of blood sugar curves following injections of epinephrin which he hoped would provide a method of testing one of the functions of the liver

Dependant on the dosage of epinephrin a fairly characteristic blood sugar curve is always obtained The recent work of Mann and his associates showed that the hyperglycæmia is due solely to the mobilization of glycogen from the liver as it does not occur in hepatectomized animals The non hepatic stores of glycogen are not acted upon by epinephrin to produce hyperglycæmia In severe liver disease there is a decrease of glycogen in the liver This is indicated by the improvement which follows the administration of glucose

The foregoing facts serve as a basis for the author s test The test consists in the injection into

In the diagnosis the X ray is of the greatest aid It reveals proximal distention and stasis long before the symptoms of obstruction develop

Surgical procedures should be instituted while the disease is still localized In critical cases colostomy may be the only procedure compatible with safety When the growth is proximal to the middle third of the transverse colon the second stage of the operation consists in division of the terminal ileum and ileocolostomy with or without division of the transverse colon proximal to the ileocolostomy When a third stage operation is necessary the growth and the excluded bowel are removed

In all surgical interventions on the colon the omentum can be used to advantage in isolating the small intestines from the field of operation the danger of gross infection being thereby greatly decreased SAMUEL KAHN M D

Gordon Watson Sir C. The Treatment of Cancer of the Rectum with Radium *Brit M J* 1929 i 671

The surgical treatment of cancer of the rectum has become highly standardized, but the majority of the patients reach the surgeon when the operable stage is past For many years attempts have been made to cure cancer of the rectum by deep X ray therapy or by the insertion into the lumen of the growth of tubes containing about 50 mgm of the element Cures have been most exceptional and in many instances the patient s sufferings have been greatly intensified by the fistulæ produced by the treatment

The author has followed the technique of Neumann in Brussels by needling the growth after exposing it freely from behind In 1927 he reported a series of fifteen cases so treated with two apparent cures In all of these cases a colostomy was performed and in some instances the growth appeared to be completely destroyed More recently the author has begun the intra abdominal treatment of high rectal growths by the implantation of radium needles and radon seeds into both the growth and the areas of lymphatic spread About a week after the introduction of the element colostomy is performed The author believes there can be no doubt that occasionally an inoperable case may be rendered operable by the preliminary use of radium

Radical surgical excision of early rectal cancer cures a certain percentage of cases because the formation of glandular and visceral metastases occurs relatively late but early diagnosis and operation are still the exception instead of the rule For all mobile growths in the rectum colostomy followed by perineal excision is the best procedure The abdominoperineal operation should be reserved for growths above the rectosigmoidal angle The results obtained with radium in cancer of the cervix and cancer of the tongue suggest that when we learn more about the measurement and control of the action of radium we may look for radium to displace surgery to a great extent in the treatment of rectal cancers

JOHN W NUZUM M D

LIVER GALL BLADDER PANCREAS AND SPLEEN

Hubbard R S and Allison C B A Comparison of Tests for Bile Pigment in Serum *Clifton Med Bull* Clifton Springs N York 1929 xv 88

The icterus index test is fairly reliable but is subject to error from three sources. The most serious source of error is the occurrence of hæmolysis in the specimens Error from this cause may be obviated by the use of a light filter which cuts out the red color of hæmoglobin and allows the yellow of bilirubin to pass through but the filter absorbs light to such an extent that its use with normal sera is difficult A second source of error is the presence in the blood of emulsified fat particles which impart a milky appearance to the serum Such fat particles are fewest in blood samples taken before breakfast but in a few cases the blood taken at that time will show a starvation lipæmia The third source of error is the presence in the blood of yellow coloring matter which is not that of bile pigment. Carotin derived from carrots imparts a yellow color that cannot be distinguished by the icterus index test from the color of bile pigment Occasionally also some of the decomposition products of hæmoglobin produce a yellow tinge in the serum

The Fouchet test modified for blood serum aids in the detection of bile pigments but is so sensitive that a positive test does not necessarily indicate the presence of abnormal amounts of pigment

The Van den Bergh test utilizes the diazo reaction and is reasonably accurate This test is of two types the direct and the indirect When the reaction to the direct test is immediate it is believed that the bile pigment has entered the blood because of obstruction of the bile ducts When the reaction is delayed it is believed that the coloring substance has arisen in the body in some other way such as by increased hæmolysis When the reaction is of the biphasic type both conditions are supposed to be present

In the indirect Van den Bergh tes the protein of the serum is precipitated by alcohol and th bilirubin present is simultaneously extracted by that solvent When the filtrate is treated with the diazo reagent a red color develops immediately if bile pigment is present The amount of dye present is estimated quantitatively by comparison with a standard solution Quantitative analyses show the efficiency with which the liver removes bilirubin from the circulation In disease of the gall bladder and bile ducts they indicate the degree to which bile is resorbed into the blood stream because of complete or partial obstruction In various types of anæmia they help to differentiate those in which an increased rate of blood destruction has led to the formation of unusually large amounts of bilirubin

The authors found that when a high icterus index was noted but the Fouchet test was negative the yellow pigment was usually not bilirubin A positive

rectus incision Pathological conditions are neglected until adhesions have been separated and normal anatomy has been restored After the abdominal cavity has been packed off with three pads the cystic hepatic and common bile ducts are identified and the cystic duct and artery are clamped separately the former close to the common duct The common duct is then explored through an enlargement of the opening in the stump of the cystic duct This is best done before the gall bladder is removed and may be very difficult if the common duct is contracted When there is any doubt as to whether the duct has been exposed a small hypodermic needle is inserted into it and an attempt is made to obtain bile The common duct is explored with a small forceps which is introduced through the duodenum and gently dilates the papilla An impacted calculus in the ampulla sometimes necessitates incision into the second part of the duodenum

The chief indication for drainage of the common duct is the presence of infection within it When the infection is mild the opening in the duct is carefully closed and a drainage tube inserted down to the foramen of Winslow When the infection is more serious a small catheter is sutured into the opening of the common duct with fine catgut

In the after treatment morphine is given in amounts sufficient to control the pain and ½ pint of water is administered by rectum every three or four hours Water is considered preferable to saline solution Cathartics are contra indicated as nothing is so likely to induce ileus as the early administration of pituitary extract or calomel Satisfactory evacuation of the bowels is usually obtained by an enema on the third postoperative day

The drainage tube passing down to the foramen of Winslow is shortened on the third day and removed on the fifth day if there is no biliary drainage A small drainage tube prevents serious complications when there is biliary leakage When this tube is removed early the wound heals readily and its site cannot be distinguished by the time the patient leaves the hospital

A drainage tube is kept in the common duct for ten days After its removal a small amount of bile sometimes escapes for several days

CYRIL J GLASPEL M D

Okada S Kuramochi K Tsukahara T and Oomoue T Pancreatic Function IV The Humoroneural Regulation of the Gastric Pancreatic and Biliary Secretions *Arch Int Med* 1929 xliii 446

The normal gastric secretion is due to two factors The first and most important is a nervous stimulus determined by the vagus through stimulation of the mucous membrane of the mouth or the arousing of appetite in the higher centers of the brain The second factor which provides for the continued secretion of gastric juice long after the mental effects of a meal have subsided is a chemical process depending on the production in the pyloric mucous membrane of a specific substance or hormone gastric secretion or gastrin that acting as a chemical messenger to all parts of the stomach is absorbed into the blood and causes activity of the various secreting cells in the gastric glands

Watery extracts of the liver injected subcutaneously into dogs cause a rapid increase in pancreatic secretion Epinephrin inhibits the secretion of digestive juices whereas insulin accelerates it The mechanism of this inhibitory and excitatory action is unknown

In studies made on patients with cancer of the stomach it was demonstrated that insulin stimulates primarily the pancreatic and biliary secretions It was found also that hypoglycæmia stimulates the secretion of these juices when insulin is injected Hyperglycæmia on the other hand stops pancreatic and biliary secretion almost entirely rendering the gastric contents achlorhydric In the authors opinion the stimulation of the secretory centers by hypoglycæmia is carried to the reacting tissue cells through the parasympathetic nervous system while the inhibitory impulse of hyperglycæmia is transmitted through the sympathetic nervous system It is probable that when hyperglycæmia is induced by the absorption of too much nourishment the secretion of digestive juices is arrested by inhibitory stimuli and further digestion and resorption are inhibited until the normal level of the sugar content of the blood is restored The authors believe this regulatory mechanism is humoroneural The regulation of the secretion of saliva on the other hand is entirely nervous

The humoroneural regulation has been demonstrated also in persons with diabetes mellitus differing from the normal in such persons only in the manner of entrance of the impulses

The authors believe that the humoroneural regulation and the humoral mechanism of Bayless and Starling play parts without interfering with one another and that at the stage of inhibition by hyperglycæmia there is no occasion for the humoral mechanism to function On the other hand the pancreatic secretion is not necessarily disturbed by altered gastric secretion a fact that demonstrates that the humoroneural regulation alone without the secretin mechanism is sufficient to excite the secretory glands of the pancreas

The conclusion is drawn that hyperglycæmia inhibits the secretion of the digestive juices and that hypoglycæmia accelerates it A rush of dextrose into the circulatory system gives rise to an impulse inhibiting both the secretion of the digestive juices and motility so that a feeling of repletion results The subject then refuses food and if food is administered there is no direct secretion of gastric juice and acid chyme is not poured into the duodenum When hypoglycæmia occurs there is an excitatory impulse of the secretory function and of motility which results in hunger The subject then takes food eagerly and digestion and resorption occur promptly STANLEY H MENTZER M D

the deltoid muscle of from 5 to 10 minims of 1 1 000 epinephrin hydrochloride and determinations of the sugar in samples of blood taken at quarter hour or half hour intervals for from an hour and a half to two hours On the day preceding the test the house diet of the hospital is permitted On the day of the test no breakfast is given The blood sugar determinations are made according to the method of Folin and Wu

Four clinical groups of subjects were selected for the test (1) normal persons without evidence of liver or bile tract disease and free from disturbance of carbohydrate metabolism (2) patients without demonstrable disease of the liver but with conditions which presumably might influence the liver adversely (for example alcoholism without clinical cirrhosis disease of the gall bladder without jaundice) (3) patients mild hepatic disease such as early cirrhosis or postarsphenamine jaundice and (4) patients with severe hepatic disease such as diffuse carcinoma of the liver extensive cirrhosis etc

Charts are presented showing the rise in the blood sugar levels following 5 and 10 minims of epinephrin From a study of the charts it is apparent that the optimum dose of epinephrin was not determined Groups 2 and 3 differed only slightly from Group 1 but a marked difference in the character of the blood sugar curve following the intramuscular injection of 10 minims of epinephrin was noted between Groups 1 and 4 The total average rise in the normal group was 34 per cent of the fasting level whereas the total average rise in the group with severe hepatic disease was 12 per cent

Experimental work on dogs was inconclusive as dogs tolerate a much larger dose of epinephrin than man

The author concludes that the test may not be of much clinical value as it differentiates only the severe types of liver disease

MANUEL E LICHTENSTEIN M D

Faltin R Cyst of the Liver (Leberzyste) *Acta ch surg Scand* 1928 lxv 375

The author reports the case of a woman forty four years of age who accidently discovered an indolent tumor in the upper part of the abdomen on the right side At exploratory laparotomy performed in July 1923 a large cystic tumor was found on the under surface of the right lobe of the liver In February 1924 enucleation of the cyst was done The cyst was medial to the gall bladder and contained about a liter of chocolate colored liquid Hæmostasis was affected by suturing the walls of the wound cavity together The operation was followed by the secretion of a large quantity of bile colored fluid and an irregular fever Healing occurred after about two months

Microscopic examination showed that the inner wall of the cyst was covered by a single layer of epithelium like that of the bile ducts External to this there was first a layer of connective tissue rich in cells then a layer of connective tissue poor in cells, then a layer of irregular heaps of liver cells and finally a thin capsule of connective tissue Small lumina with bile-duct epithelial cells and heaps of liver cells were observed also in some parts of the third layer The microscopic diagnosis was cystadenoma

Gasparian G I Primary Tumors of the Liver (Ueber die primaeren Lebergeschwuelste) *Arch f klin Chir* 1928 clii 435

Of the various primary tumors of the liver cystadenoma is described in greatest detail as it is the most common form Reports of operations for cystadenoma have considerably increased in number in recent years The author reviews ninety seven cases including three treated in Fedorov s clinic and two cases of suppurating cysts He discusses the pathological anatomy on the basis of the literature and the findings of his own investigations He rejects the classification of cystadenomata into the solitary and diffuse forms as he recognizes only a diffuse form

Radical operation alone prevents the formation of fistula Gasparian states that the cause of the cyst formation is a dysontogenetic factor to which for some unknown reason a neoplastic process is added Cyst formation cannot occur without both factors The tumor is more common in women than in men and occurs most frequently between the age of forty and sixty years The clinical picture is indefinite variable and not typical Therefore only a presumptive diagnosis can be made and the tumor is usually first recognized at operation

The author reports also upon nine cases operated upon for cavernoma of the liver including one treated by Fedorov He believes that the cause of this tumor is an embryological malformation of a vascular region of the liver supplemented by a neoplastic process

The clinical picture and pathogenesis of adenoma adenocarcinoma and carcinoma of the liver and the relation between hepatic cirrhosis and neoplasia are discussed on the basis of four of the author s cases of tumor of the liver The literature on the subject is reviewed

COLLENS (Z)

Walton A J The Surgical Treatment of Recurrent Cholelithiasis *Brit J Surg* 1929 xvi 658

The ideal surgical procedure in cholelithiasis is removal of the gall bladder followed by exploration of the common duct from within and dilatation of the papilla After such treatment there is very little chance of recurrence In some cases however the patient s condition may prevent an ideal operation When biliary calculi are reformed surgical treatment is again necessary and as the operation is often prolonged careful pre-operative preparation is essential

The author operates for recurrent cholelithiasis under ether anæsthesia and through a long right

rectus incision Pathological conditions are neglected until adhesions have been separated and normal anatomy has been restored After the abdominal cavity has been packed off with three pad the cystic hepatic and common bile ducts are identified and the cystic duct and artery are clamped separately the former close to the common duct The common duct is then explored through an enlargement of the opening in the stump of the cystic duct This is best done before the gall bladder is removed and may be very difficult if the common duct is contracted When there is any doubt as to whether the duct has been exposed a small hypodermic needle is inserted into it and an attempt is made to obtain bile The common duct is explored with a small forceps which is introduced through the duodenum and gently dilates the papilla An impacted calculus in the ampulla sometimes necessitates incision into the second part of the duodenum

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Touw J B A and Boekelmann W A *Pancreatic Cysts* (Pankreascysten) *Genesk Bl* 1928 xxvi 271

Pancreatic cysts may be divided into true cysts pseudocysts and hydatid cysts The true cysts include retention cysts cysto epitheliomata with proliferation of the epithelium of the acini or excretory ducts and the rare congenital cysts Pseudo cysts are often formed by softening in fat necrosis or tumors by auto digestion after trauma and by the escape of blood and pancreatic juice into the omental bursa They are usually of traumatic origin Hydatid cysts are rare as the pancreas is involved in only 1 per cent of cases of echinococcus infection

The causes of cysts are (1) chronic and acute inflammations following gastroduodenal catarrh bile tract diseases, the perforation of gastric and duodenal ulcers into the pancreas with subsequent occlusion of the excretory duct (2) trauma (3) neoplasms and (4) the echinococcus

The pathogenesis of the cysts is not entirely clear Pure retention cysts have never been observed nor produced experimentally As a rule epithelium is absent The retained secretion destroys the walls and the latter are replaced by inflammatory tissue Small cysts become confluent as for example in chronic pancreatitis Traumatic cysts usually arise within three months after the injury usually a blunt trauma to the upper abdomen Many of the cysts are encapsulated blood extravasations in the omental bursa but according to Kotte true cysts may be caused also by trauma followed by chronic interstitial pancreatitis leading to occlusion of the excretory duct Obstructed excretion and obstructed absorption work together Lazarus confirmed this view by experiments

Honigmann on the basis of his autopsy protocols classified pancreatic cysts into the following groups (1) the peripancreatic those formed in the omental bursa (2) the parapancreatic those formed under the peritoneal covering of the gland and (3) the endopancreatic those formed within the gland substance He never found an endothelial or epithelial lining of the inner wall Cysts formed by softening in necrotic areas were also observed by him

Pathologico anatomical studies of cysts removed by operation are rare since as a rule the cyst is sewed into the wound in the abdominal wall Biopsies of the cyst walls reveal varying pictures At autopsy glands with multiple small cysts are repeatedly found These may arise from any portion of the gland Large cysts appear most frequently in the body or the tail of the organ The large cysts which are usually broad based and rarely pedicled may contain as much as 26 liters of fluid The rapidity of growth is variable As a rule the wall is smoothly covered with peritoneum Internally the cysts are smooth walled and often multilocular Metastatic epithelomata occur Usually the epithelium of the inner surface is destroyed The contents are light or dark in color, depending on the amount of blood pigment present Blood does not prove that a cyst is of traumatic origin The consistency of the cyst contents is variable but is usually mucoid In about a third of the cases the cysts contain pancreatic ferments most often the diastatic next most often the lipolytic and least often the tryptic The contained blood seems often to check the activity of the ferments

Boekelmann reports eleven of his own cases He states that the cysts occur with equal frequency in both sexes Trauma seems to be the cause in only 30 per cent of the cases The history is not characteristic Except in cases of trauma it points to the underlying disease which gave rise to the chronic pancreatititis Pain is present and often is associated with attacks of vomiting Dyspeptic symptoms and loss of weight are common Fever is rare The Loewi test (dilatation of the pupils after the instillation of adrenalin into the conjunctival sac) is unreliable for diagnosis Ferment tests in the stools serum and urine which should indicate pancreatic function are of limited value

The clinical findings are important Lazarus divides the cases into the following five types

1 The gastrohepatic type, in which the cysts develop between the liver and the lesser curvature of the stomach This type is rare

2 The retroventricular type

3 The gastrocolic type in which the cyst forms in the omental bursa This is the most common type

4 The mesocolic type in which the cyst develops in the transverse mesocolon and is easily mistaken for an ovarian cyst

5 The prevertebral type in which the cyst develops from the head of the gland in front of the spinal column and extends downward

Roentgen examination with inflation of the colon and a contrast meal in the stomach often gives good pictures Sometimes inflation of the stomach and colon will suffice The most common location of the cyst is in the epigastrium or the left hypochondrium The demonstration of fluctuation is important but is not always possible Pancreatic cysts have been confused with renal adrenal and hydronephrotic tumors Ureteral catheterization may be misleading because of pressure of the tumor on the ureter Retroperitoneal malignant tumors may simulate a pancreatic cyst Once an aneurism of the abdominal aorta was mistaken for a cyst of the pancreas In five cases reported in the literature a pancreatic cyst was diagnosed as an ovarian cyst although pancreatic cysts usually leave the iliac fossa free In the differential diagnosis it is necessary to rule out also echinococcus cyst of the left lobe of the liver Cysts of the mesentery and omentum are much more mobile than cysts of the pancreas Exploratory puncture is dangerous

The prognosis without operation is unfavorable In the operative treatment total excision partial excision and incision with drainage come into consideration According to Mueller a cure is obtained by total excision in 64 per cent of the cases by

partial excision in 78 per cent and by incision with drainage in 90 per cent Total extirpation is indicated particularly for carcinomata and cystadenomata When drainage is established a fistula not infrequently persists The fistula may be treated by diet (carbohydrate free Wohlgemut) radium irradiation or extirpation or implantation of the fistulous tract into the stomach Drainage may be followed also by suppuration of the cyst The author observed a fistula after drainage which communicated with the bowel by way of the pancreatic duct Regulation of the diet brought about recovery In the case of a man twenty nine years of age the author saw the development of severe diabetes as a late result

Boekelmann's eleven cases are reported with diagrams showing the location of the cysts

JANKE (*Leipzig*)

Straus D C and Tumpeer I H Subcutaneous Traumatic Rupture of the Spleen with the Report of a Case *Surg Clin N Am* 1929 ix 345

It is very rarely possible to make a positive preoperative diagnosis of subcutaneous rupture of the spleen This is true particularly in the severe cases which demand immediate operation

The type of surgical treatment is determined to some degree by the type of the injury

Central contusion ruptures may result in traumatic splenomegaly the formation of encapsulated hæmatomata with secondary rupture into the peritoneal cavity with serious late intraperitoneal hæmorrhage In cases of such injuries sometimes known as two stage ruptures the symptoms are usually mild after recovery from the initial pain of the contusion and the shock until the subcapsular hæmatoma breaks through the capsule The patient is then suddenly seized with severe abdominal pain collapses rapidly becomes anæmic vomits and develops marked abdominal rigidity This may not occur until from one to two weeks after the injury

Peripheral subcapsular tangential contusions due to scraping result in the formation of subcapsular hæmatomata and blood cysts which later may suppurate The hæmatoma forms beneath the resistant capsule which may be loosened in one or more points As the hæmatoma enlarges and exerts more and more pressure on the capsule the capsule is likely to rupture and become further stripped off

In some cases there may be an isolated tear of the capsule Tears involving the capsule and parenchyma may be superficial or complete or extend through the entire thickness of the organ Other types of injury are isolated tearing away of one pole of the spleen incomplete or complete tearing away at the hilus and isolated tearing of the splenic vein or artery or both

The symptoms of traumatic rupture of the spleen are those of injury to an intraperitoneal organ or of hæmorrhage As a rule there are no external bruises Shock is usually marked at the outset but may be absent It recurs as the result of hæmorrhage Abdominal pain is practically always present At first it is localized chiefly to the left side of the abdomen but later it becomes generalized As a rule vomiting occurs Abdominal rigidity is marked Tenderness is noted on pressure Percussion reveals dullness radiating from the spleen and gradually increasing in extent Dullness in the left flank is a sign of importance Later the symptoms of hæmorrhage—pallor a rapid weak pulse and leucocytosis—dominate the picture

The differential diagnosis from internal hæmorrhage from other causes and from beginning peritonitis due to rupture of the stomach or intestine is difficult and often impossible

The treatment is immediate operation It is rarely advisable to wait for subsidence of the shock In the authors' cases operation is performed under ethylene anæsthesia As soon as the bleeding is controlled a subcutaneous saline infusion is given A midline incision is made above the umbilicus and a transverse incision through the rectus muscle to the left, parallel with the intercostal nerves Splenorrhaphy is indicated for superficial ruptures involving only the upper surface of the spleen It is not practical in tears of the lower surface For complete exploration of the spleen it is necessary to divide the gastrosplenic and phrenicosplenic ligaments As this renders the spleen mobile there is danger of torsion including necrosis unless the organ is removed The insertion of packing into tears is hazardous as bleeding is apt to occur when the packing is removed It should be limited to slight ruptures in the cases of patients whose general condition is poor

The operation of choice is splenectomy As a rule removal of the spleen is followed by a slight anæmia persisting for years with a slight leucocytosis but it does not adversely affect growth or health and does not lessen resistance to infection Resistance remains normal or is increased

HOWARD A MCKNIGHT M D

Ahlbom H Two Cases of Splenomegaly with Hæmatemesis Treated by Splenectomy (Deux cas de splenomégalie avec hématémèses traités par la splénectomie) *Acta chirurg Scand* 1928 lxiv 387

The author reports two cases with symptoms simulating those of Banti's syndrome—splenic enlargement the vomiting of blood *anæmia and* leukopænia Splenectomy gave a very good result in one case but in the other was followed after two days by death

Histological examination of the spleen showed in one case the signs of hyperplasia and stasis and in the other mainly the signs of stasis In neither was there the typical appearance of Banti's spleen

The author discusses the etiology and pathogenesis of the condition with particular reference to the theory that stenosis of the splenic vein is the causative factor The postmortem findings in one of the cases he reports must be considered as evidence against classification of the condition in the group of pylephlebostenoses Ahlbom believes

that in many other cases also hyperplasia of unknown cause is undoubtedly the primary factor and stasis is a secondary phenomenon

The treatment is discussed briefly attention being drawn to the insignificant effect of a preliminary blood transfusion given in one of the author's cases prior to the splenectomy

In conclusion mention is made of an observation very rarely emphasized in the literature as a feature of the condition namely the appearance of large numbers of normoblasts in the blood immediately before splenectomy The possible importance of this sign in elucidating the splenic function is being investigated

Alport A C Splenic Anæmia The Necessity for Early Operation *Lancet* 1929 ccxvi 864

Splenic anæmia is characterized by enlargement of the spleen secondary anæmia leucopænia and as a rule a relative lymphocytosis

Banti's disease is a late stage of splenic anæmia complicated by cirrhosis of the liver Banti believed that the disease is a primary splenomegaly due to an infective agent and that the splenic enlargement produces a toxin which causes the changes in the liver the anæmia being the result of toxæmia and hæmorrhage

Splenectomy is the only treatment of value but in the late stages i e Banti's disease it cannot influence the hepatic degeneration and cirrhosis However even in late cases it retards the progress of the condition and prolongs life provided the patient can endure the shock of the procedure In the differential diagnosis it is absolutely essential to eliminate the atypical forms of leukæmia

The author reports two cases of Banti's disease treated by splenectomy The patients were sisters In one the liver involvement was in the early stages and in the other it was advanced The former recovered and the latter died The spleen of the latter weighed 1 700 gm while the liver was about two thirds the normal size

In early cases of splenic anæmia splenectomy is relatively simple but in advanced cases it is a difficult procedure with a high mortality The prognosis becomes progressively more serious with the onset and advance of hepatic cirrhosis While the removal of the spleen does not prevent the changes in the liver it retards them Therefore splenectomy should be performed as soon as the diagnosis of splenic anæmia is made provided liver tolerance tests show that the efficiency of the liver is not too greatly impaired STANLEY H MENTZER M D

MISCELLANEOUS

Carrington C L Diaphragmatic Hernia *Ann Surg* 1929 lxxix 51

Diaphragmatic hernia may be classified as congenital acquired and traumatic

The difficulty of diagnosis is apparent from the infrequency with which the condition is discovered before operation Operation may be performed by the abdominal or the thoracic route Some difficulty may be experienced in reducing herniated viscera but this may be overcome by inserting a stomach tube and maintaining proper intrathoracic pressure

The author reports a case of extensive hernia in a boy of sixteen years the result of an automobile injury sustained nine years previously From time to time the stomach and a large part of the intestines became incarcerated in the thorax

The first operation consisted of an extrapleural thoracoplasty under nitrous oxide anæsthesia Portions of the sixth seventh eighth ninth and tenth ribs were removed subperiosteally Thereafter the patient had no more attacks of incarceration although the X ray showed that the stomach and bowel entered the thorax Two months later under Gwathmey nitrous oxide anæsthesia an incision was made between the eighth and ninth rib and the thorax opened The stomach and bowel were then easily returned to the abdomen but the spleen was securely attached and its removal was necessary The hernial opening and chest wounds were closed securely A week later fluid which collected in the left chest became purulent following an attack of septic sore throat and an empyema requiring drainage resulted

The suturing of the diaphragm held well The patient left the hospital at the end of three months in good condition but with a thoracic sinus that required irrigation at intervals He had gained 18 lbs and was able to lead an active normal life

WILLIAM J PICKETT M D

Collier W Hurst A F and Sheaf E W Two Cases of Gastric Ulcer Associated with Congenital Diaphragmatic Hernia *Guy's Hosp Rep Lond* 1929 lxxix 159

In the cases reported the diagnosis of diaphragmatic hernia complicated by chronic gastric ulcer was made by X ray examination and confirmed at autopsy The patients were fifty five and fifty eight years old One of them died from shock after an abdominothoracic operation The other was not operated upon

The only similar case which the authors were able to find in a review of the literature was reported by Bright in 1836 LOUIS P GAMBEE M D

Vorschuetz Diseases in the Upper Abdomen with Inflammatory Processes in the Lower Abdomen (Ueber Erkrankungen im Oberbauch bei entzündlichen Prozessen im Unterbauch) *Zentralbl f Chir* 1929 p 217

The author believes that in most diseases of the abdominal viscera there are certain interrelationships either simultaneous or consecutive In support of this assumption he cites cases in which inflammatory conditions have been found in the lower abdomen after the presence of disease in the upper abdomen has been recognized for some time The nature of this relationship is not clear and has been the subject of much discussion The author has studied

the problem for ten years In reporting upon his material he deals only with the relationship between the organs of the lower abdomen of the female and appendicitis and biliary gastric and duodenal diseases

He studied 128 cases of disease of the gall bladder and 101 cases of gastric or duodenal ulcer Of the cases of gall bladder disease a relationship to other organs chiefly in the lower abdomen could be determined in 74 2 per cent Nearly all of the women but only 13 per cent of the men with gall bladder disease were suffering also from disease in the lower abdomen In the 101 cases of ulcer of the stomach and duodenum disease of other organs was found in 63 the incidence of the secondary condition being about equal in males and females

Vorschuetz therefore believes that all of these conditions arise by way of the solar plexus which is situated at the site of origin of the cœliac and superior mesenteric arteries and consists of the left and right cœliac ganglia From this ganglion there arise various plexuses—the paired phrenic suprarenal and spermatic the plexus of the ovarian arteries and the single superior gastric hepatic splenic and superior mesenteric plexus The superior mesenteric has three branches—one to the head of the pancreas and the lower half of the duodenum one to the jejunum and ileum and one to the cæcum ascending colon and a part of the transverse colon The upper half of the abdomen is therefore supplied by the solar ganglion as far as the transverse colon The ganglion is entered by sensory sympathetic and parasympathetic fibers

According to Vorschuetz gastric pain associated with appendicitis is due to irritation of the sensory paths entering the ganglion or of the tissues surrounding the ganglion The pain of organs in the upper abdomen is transmitted to the ganglion and felt there first Accordingly the pain of disease of the gall bladder liver pancreas spleen and kidneys is a solar plexus pain Gastric pain is also frequently referred to the site of the ganglion In such cases the stomach is often not painful on pressure

The sympathetic and parasympathetic fibers run centrifugally from the ganglion to the organs mentioned and pathological injury of these paths may cause pathological signs in the end-organs The sympathetic nervous system innervates the blood vessels and determines their tone thereby regulating the nutrition of the cells by the blood The parasympathetic system regulates the function of the organs Any affection of the solar ganglion may cause serious injury of the end-organs

The author discusses in detail the results which may follow diseases of the solar ganglion He cites a case in which an injury of the solar ganglion was caused by crushing of the first lumbar vertebra and the patient died from hæmorrhage due to freshly developed gastric ulcers Vorschuetz believes that ulcers may be caused by irritation of the sympathetic as well as the parasympathetic nerves from the solar ganglion which produces narrowing of the blood vessels and muscle contraction The fact that the solar plexus has a right and a left cœliac ganglion he regards as of importance in relation to the site of development of gastric ulcers The appendix and gall bladder affect chiefly the right ganglion To this the hepatic plexus belongs The latter supplies the pylorus the horizontal portion of the duodenum and the greater curvature The splenic plexus supplies the fundus of the stomach This explains the occurrence of ulcers in the right half of the stomach since the development of such lesions is favored by irritation from the inflamed appendix and gall bladder by way of the solar plexus The sequence of conditions in ulcer is (1) an inflammatory affection in the right side of the abdomen (2) irritation of the solar plexus and (3) irritation of the gastric wall

Causal therapy must remove the inflammatory lesion and place the solar ganglion at rest Vorschuetz has made injections of 5 to 10 per cent sodium chloride solution into the solar ganglion similar to injections into the sciatic nerve He believes that the salt solution changes the osmotic conditions and the metabolism For the justification of such treatment it is necessary for pathological changes to be present in the ganglion Vorschuetz cites numerous reports of the discovery of acute and chronic inflammation in the ganglion He has treated 7 patients with beginning ulcer in the manner described He recommends the injections especially for pseudorecurrent colics after removal of the gall bladder In 3 cases he obtained excellent results

VOGELER (Z)

GYNECOLOGY

UTERUS

Rickman J On the Etiology of Prolapse of the Uterus *J Obst & Gynec Brit Emp* 1929 xxxvi 0

Rickman attributes prolapse of the uterus to a constitutional predisposition plus an increase in the *intrapelvic pressure* These may be supplemented by contributory factors such as weakening of the tissues by tearing or undue stretching during child birth subinvolution of the tissues during the puerperium or relaxation of the suspending structures at the climacteric

It is emphasized that neither predisposition nor an increase in the intrapelvic pressure alone will cause the uterus to descend or protrude Even in a case of pelvic maldevelopment (with spina bifida and other abnormalities) in which the pelvic floor is a thin sheet of tissue and the suspending structures are very weak prolapse will fail to occur unless the intrapelvic pressure is raised Conversely when the *pelvic floor and suspending tissue are constitutionally* very strong no amount of straining lifting of heavy weights or prolonged exertion will cause prolapse CARL H DAVIS M D

Bride J W *A Large Fatty Tumor of the Uterus* *J Obst & Gynec Brit Emp* 1929 xvi 83

Fatty tumors of the uterus are exceedingly rare The tumor in the case reported by the author was unusually large It was removed by supravaginal hysterectomy under the impression that it was a fibromyoma of the uterus *The patient* was a woman sixty three years old who had had four children The last child was born twenty nine years ago The patient stated that menstruation had always been normal Twelve years before she was seen by the author she had had a severe attack of bleeding after six years of amenorrhœa and a month before she had had another attack in which the hæmorrhage *was so severe that plugging of the vagina was necessary* Swelling of the stomach had developed slowly over a period of years

The author found a large hard swelling which practically filled the abdomen No complaint was *made of pain or pressure symptoms The patient* was thin but not emaciated On vaginal examination the cervix was found small normal and not lacerated and no bleeding occurred

At operation the tumor was discovered to be freely movable There were no adhesions In the peritoneal cavity there were numerous floating fat globules Operation was followed by recovery

The tumor was a nearly round mass weighing 9 lb and measuring 8 in in diameter Section showed it to consist of bright yellow encapsulated fat CARL H DAVIS M D

Kanki Y Statistics of Uterine Cancer *Jap J Obst & Gynec* 1929 xii 12

The author reports a statistical study of 617 cases of cancer of the uterus which were operated upon at the Institute of Obstetrics and Gynecology at the Imperial University of Kyoto These cases showed nothing to prove the existence of a relationship between the number of childbirths and cancer of the uterine cervix

Cancer of the uterine cervix is most common between the ages of thirty and sixty years The spinal cell type occurs at an earlier age than the fat spindle cell type The former often attacks the lymphatic glands but very seldom affects the connective tissues (parametrium) whereas the latter involves the connective tissue *more frequently than the lymphatic* glands Recurrence is most frequent in cancer of the spinal cell type CARL H DAVIS M D

ADNEXAL AND PERIUTERINE CONDITIONS

Cabe W E Torsion of the Undiseased Fallopian Tube *Arch Surg* 1929 xviii 834

The author reports four cases of torsion of the undiseased fallopian tube He states while some patients are acutely sick from the condition it is astonishing how few symptoms and signs may be caused by a gangrenous mass in the pelvis The only safe treatment is operation Without operation there is danger of necrosis and gangrene with infection and subsequent peritonitis rupture with hæmorrhage or cystic degeneration with fibrosis resulting in chronic semi invalidism However, it is conceivable also that the acute torsion may subside completely without any sequelæ The condition may be classified with acute appendicitis intussusception and intestinal obstruction in which operation should be done as soon as the diagnosis is made

In the young virgin torsion of the undiseased *fallopian tube is rare In the married woman it* is uncommon but not exceedingly rare It may be caused by a number of mechanical conditions not fully understood and must be added to the already long list of conditions to be thought of in the diag*nosis of acute condition of the abdomen* In considering the advisability of operation the surgeon should remember that the symptoms and signs often belie the severity of the pathological process ROLAND S GROW M D

Le Balle L and Patay R Primary Epithelioma of the Fallopian Tube (Epithelioma primitif de la trompe de Fallope) *Bull Soc d obst et d gynec de Paris* 1929 xviii 4

A woman forty four years *old complained of* irregular menstruation and an increasing seromucoid

leucorrhœa Exploratory curettage was negative but the discharge became worse and acquired a foul odor Operation revealed a left hydrosalpinx and a tumor the size of a large nut involving the distal two thirds of the right tube Longitudinal section of the neoplasm showed that it began in the region of the fimbria by simple proliferation of the mucosa progressed to the formation of an epithelioma and finally attained the extremely malignant characteristics of an alveolar carcinoma invading the submucosa The patient was free from recurrence sixteen months after the operation

In the discussion of this report DUOAY stated that he had seen two similar cases in a period of six years He called attention to the intermittent but persistent leucorrhœa which is an important diagnostic aid Leucorrhœa of this type was present in both of his cases In the first case the tumor was a cylindrical epithelioma with metaplasia which was thought to arise in the tube but possibly was of ovarian origin In spite of operation and radium treatment the patient appears moribund at the present time (five years since the operation) In the second case a diagnosis of carcinoma of the fundus with secondary involvement of the cervix was made At operation a large invasive cylindrical epithelioma primary in the left tube was found There was no evidence of recurrence after eight months GOODRICH C SCHAUFFLER M D

EXTERNAL GENITALIA

Sharman A A Note on Hæmatocolpos *Brit M J* 1929 1 899

Sharman reports two cases of hæmatocolpos The features of special interest in the first case were the age of the patient (thirteen years eight and a half months) severe abdominal pain probably caused by spasmodic contractions of the uterus and epistaxis on the day before the onset of the pain

The features of note in the second case were very acute retention of urine and the complete absence of previous disturbances or symptoms with the exception of slight backache of a week s duration

ROLAND S CRON M D

Harris S H Urethrovesicovaginal Fistula A New Operation for Restoration of the Urethra *J College Surg Australasia* 1929 1 390

In the operation described by the author a U shaped incision embracing the fistula is made in the vaginal mucosa and by sharp dissection two strong vaginal flaps are raised on the outer side of each arm The inner tube of the new urethra is then formed by uniting the edges of this area This is done by tying No 1 chromic catgut sutures over a rubber catheter passed through the fistula (Fig 1)

The bladder sphincter is re formed by the introduction of deep sutures into the muscle on each side

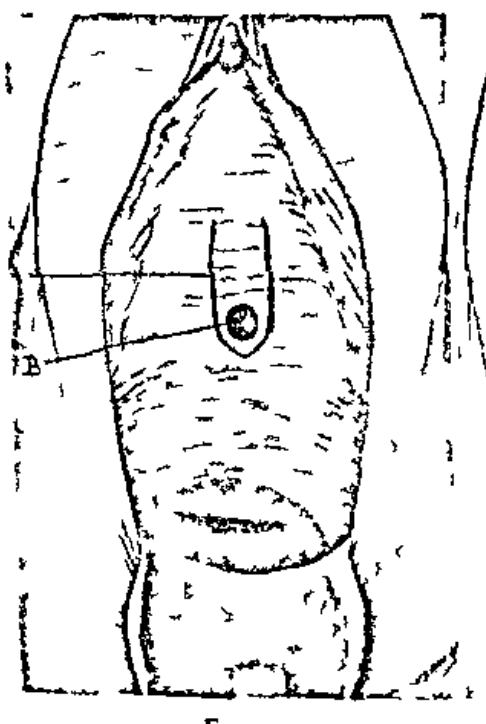


Fig 1

Fig Showing the U shaped incision (A) made through the vaginal mucosa and extending ½ in beyond the fistulous orifice (B) Note the complete absence of the urethra The neck of the bladder opens directly into the vagina

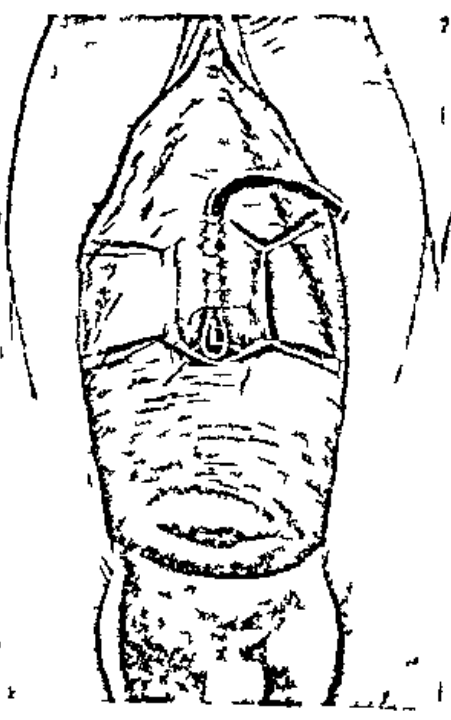


Fig 2

Fig 2 Restoration of the urethral tube by lateral suture of the limbs of the U incision

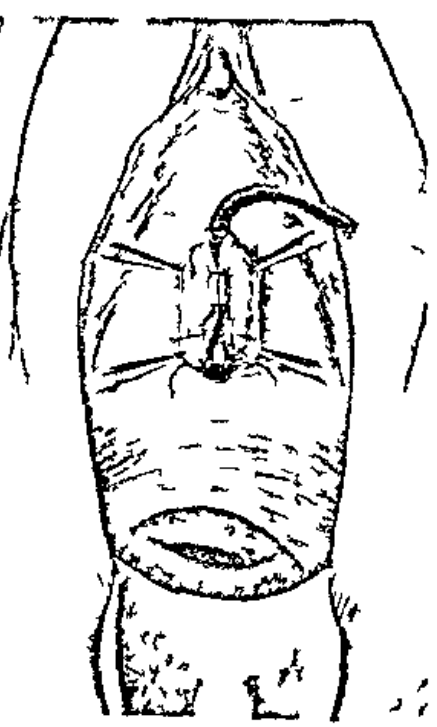


Fig 3

Fig 3 Re formation of the bladder sphincter by deep muscle sutures which serve also to bury the first row of sutures

(*Harris U etl ovesicovag al Fist l*)

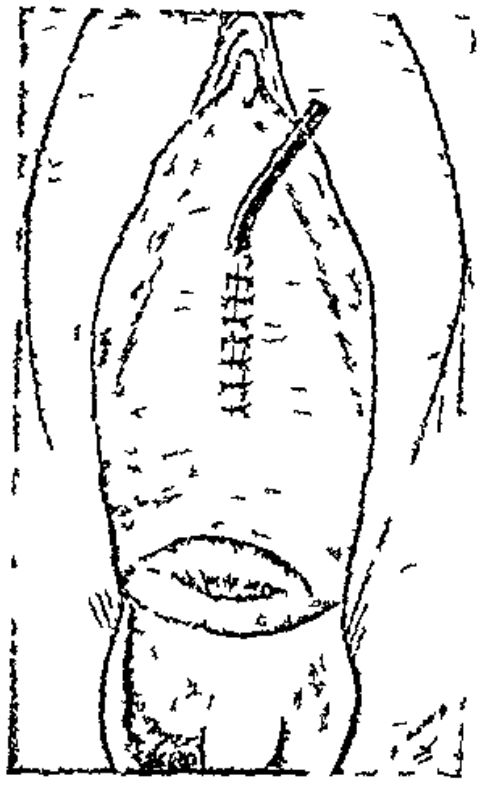


Fig 4 Completion of the plastic operation The vaginal flaps are top-sewn over the muscular layer

of the newly formed urethra and bladder neck (Fig 2) The final step consists in top sewing the reflected flaps of mucosa (Fig 3) The catheter is then removed a suprapubic cystotomy is done and a tube is inserted to drain the bladder for fourteen days

ALICE T MAXWELL, M D

MISCELLANEOUS

Kermauner F Hæmorrhages During the Menarche (*Blutungen in der Menarche*) *Wien med Wchnschr* 1928 ii 1511

This article is based on a review of the literature of hæmorrhage during the menarche and 50 cases of the condition occurring in 10 000 gynecological cases *Excluded from the discussion are 2 cases* which were slightly suggestive of abortion 1 case of florid syphilis 2 cases with severe cystitis (and possibly also pyelitis) 2 cases with repeated inflammation of the throat and 5 cases of a doubtful nature probably less severe infections or trauma possibly partly psychic

With regard to the cause one thinks first of underdevelopment although the age picture of the first period not infrequently suggests hyperplasia and defective development of the external genitals and the uterus *does not seem to be any more frequent* in females with such hæmorrhages than in others The importance of the constitution and race and familial factors is uncertain Of the general diseases, catarrh of the *apices of the lungs endocarditis* and chlorosis are mentioned A serious disturbance of the cycle of ovulation usually underlies *the irregular genital bleeding but* the mucous membrane of the uterus also plays a part Hæmostasis and the variation in the severity of the bleeding must be attributed to a certain rigidity of the blood vessels and possibly also an abnormal vascular wall reaction The few fatalities are still quite unexplained The author cites a case seen in the Second Gynecological Clinic in 1921

Blood diseases (myeloid leukæmia and thrombopænia) and hormonal disturbances (thyroplasia etc) must be borne in mind Occasionally hæmorrhages *during* the menarche are produced by ovarian tumors

The prognosis is quite uncertain It is never possible to foretell when the periods will become normal

The purpose of treatment is permanent regulation of the cycle The tendency today is toward too much treatment of the ovary More attention *should be paid to general treatment Determinations* of the basal metabolism should be made as these indicate the presence of metabolic disturbances *and disturbances in the endocrine gland system In* the cases of asthenic women the Jungmann pelvic girdle has been used with very good results Resection of the ovaries is absolutely rejected by the author Hormone therapy is of great importance Kermauner has observed no marked differences in the effects of various preparations (ovosan oprotex onuklex sistomensin ovowop menformon and *luteokomol) In light cases treatment* with iron and arsenic or large doses of iron (2 gm. of reduced iron three times daily) is sufficient In hypothyroidism *thyroid gland tablets thyroxin or minute* doses of iodine are very effective In hyperthyroidism the thyroid gland is treated with the roentgen ray It is difficult to reach the pituitary gland, perhaps the most important endocrine organ Roentgen irradiations of this organ have failed

Stimulating irradiations of the ovary are advised against because of the possibility of injury to subsequent offspring Curettage of the uterus is rarely successful Supravaginal amputation of the uterus or defundation of the uterus is to be considered only *exceptionally when life is endangered* Blood transfusion and injections of autogenous blood according to the proposal of Wachtel have shown no results Strophnon autogenous serum serum from pregnant women horse serum glucose insulin and calcium have been found beneficial in certain cases Pituitary and secale preparations are often indispensable Psychic causes did not come into consideration in the clinical material therefore psychotherapy (psychoanalysis etc) has not been used up to the present time

HITMLER (G)

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Ivanov P A Case of Extra Uterine Pregnancy of Seven Months Duration (Fall von Extrauterin schwangerschaft von 7 Monaten) *Zurnal akuš erst d i nskich bolc nej* 1928 xxxix 86

The case reported was that of a multipara thirty eight years of age who had not menstruated for seven months Soon after the onset of the amenorrhœa the patient had two attacks of pain and noticed a mass in the right epigastrium which grew quite rapidly One and a half months before she consulted the author she had felt movements in the abdomen but two weeks previously these had ceased

At laparotomy the mass had the appearance of a uterus without any connection with the genital organs The placenta was so intimately attached to the liver that resection of a portion of the liver was necessary for its removal The genital organs were normal except for marked descent of the uterus The fetus was 40 cm long and macerated

Microscopic examination of the placenta revealed a normal structure Between the villi and the liver tissue there was a layer of cells with a structure resembling that of the decidua basalis Direct penetration of the chorionic elements into the liver tissue was not observed In addition to brown atrophy of the liver cells there was a marked vascular development On the basis of the macroscopic findings (the location of the gestation sac and the absence of connections with the normal genital organs) and the microscopic findings (the close relationship of the placenta to the liver) the author concludes that this was a case of primary abdominal *pregnancy* A Scheinmann (G)

Cotte Phlebitis of Four Limbs in the Course of a Ruptured Extra Uterine Pregnancy (Phlébite des quatre membres au cours d une grosse se extra utérine fissurée) *B Soc d obst et gynec d Par* 1929 xvii 53

During the course of an ectopic pregnancy in which there were signs of rupture and hæmorrhage on 2 occasions phlebitis developed first in the right leg eight days later in the left leg and several days later in the left and right arm Under conservative management for three months the condition cleared up leaving no sequelæ Operation five months later demonstrated the absorbing tubal pregnancy but showed no trace of the phlebitis

In the discussion of Cotte s report Villard stated that in his opinion many cases of phlebitis are aseptic being dependent upon hypercoagulability of the blood rather than infection He has noted this phenomenon particularly following operations for fibroid tumor with chronic blood loss He called attention to the fact that fatal emboli frequently do not follow serious postoperative infections He believes that the action of the placental coagulants may be responsible for afebrile puerperal phlebitis

Voron cited 3 cases in which a typical phlegmasia alba dolens occurred during the last months of pregnancy In 1 there was a pulmonary infarct Theoretically the increased coagulability of the blood after delivery should be limited to the uterus Voron has frequently noticed signs of pelvic phlebitis prior to signs of infection He stated that it is difficult to explain why the aseptic type of phlebitis does not occur more frequently He saw 3 cases of fatal pulmonary infarction in 40 000 deliveries In no case was the complication preceded by the slightest sign of infection or phlebitis In Voron s opinion emboli are not dependent upon phlegmasia alba dolens and the presence of fibroids does not predispose to postpartum phlebitis

Plauchu stated that in most of his cases of phlebitis the condition followed more or less definite signs of infection He believes it to be most frequently the result of an attenuated puerperal infection

Rhenter reported that he had observed 1 case of fatal embolism and 2 cases of phlebitis during pregnancy all apparently aseptic

Chalier stated that he distinguishes between postoperative and obstetrical phlebitis He believes that the phlebitis following operation is aseptic as it occurs most frequently following clean operations and is not associated with a rise in the temperature As venous stasis is a possible factor he gets his patients out of bed by the fifth day Since he has followed this practice he has had no further cases of the complication

Trillat and Couillioud stated that they object to early mobilization since in their opinion the condition is of infectious origin

Goodrich C Schauffler M D

Armytage W B G A Case of Torsion of a Fallopian Tube and Ovary During Pregnancy *J Obst & Gynæc Brit Emp* 1929 xxxvi 87

The patient whose case is reported was a girl sixteen years of age who was admitted to the hospital in the sixth month of pregnancy complaining of intense pain in the abdomen particularly on the right side and absolute constipation Two large soap-suds enemata had been given without result The fetal heart sounds and movements were normal and there was no vaginal discharge vomiting or distention The temperature was 99 8 degrees F and the pulse rate 100 The urine was free from albumin Over MacBurney s area there

was marked cutaneous hyperalgesia but only slight rigidity

A tentative diagnosis of appendicitis complicating pregnancy was made and an order given for cultural examination of the urine and a complete blood count The culture was negative and the white count 11 500 When the patient was seen again twenty four hours later the pain was much more severe, repeated enemata had failed to evacuate flatus or feces and there was some abdominal distension No vomiting had occurred On vaginal examination nothing abnormal could be felt and on abdominal examination no tumor could be palpated A diagnosis of acute appendicitis and pregnancy was made

When the abdomen was opened by a high Battle incision about 4 oz of serous fluid came away On separation of the omentum which was adherent to the lateral wall of the uterus the right fallopian tube and ovary were found twisted two and a half times in the longitudinal axis of the fallopian tube close to the fundus of the uterus The fimbriated end of the fallopian tube and the ovary were bluish black and looked almost gangrenous On the surface of the ovary there was a corpus luteum the size of a cherry

Following removal of the fallopian tube and ovary the abdomen was closed without drainage The wound healed by first intention

CARL H DAVIS M D

Hofbauer J Decidual Formation on the Peritoneal Surface of the Gravid Uterus *Am J Obst & Gyn* 1929 xvii 603

The development of ectopic decidua on the posterior aspect of the pregnant uterus was found in fifteen of twenty three specimens examined Six showed a wide distribution of the decidual reaction In two cases the condition had occurred in association with premature separation of the normally implanted placenta with serious clinical symptoms and in two others in association with nephritic toxæmia

Upon careful microscopic study of the sections certain new features concerning the structure were established At the outset it was obvious that the decidual cells in question showed great variation both in size and in form Whereas the ectopic decidua is ordinarily arranged in several layers and in structure closely resembles the intra uterine decidua the decidua formation in the cases under consideration showed frequently in the same field polygonal spindle shaped ovoid and exceedingly elongated amœba like cells with numerous protrusions Some of the cells had a single nucleus while others showed as many as eight nuclei thus resembling giant cells Vacuoles in the cytoplasm were rather common Quite frequently the decidual cells extended around small vessels in the shape of a sheath The covering mesothelium of the peritoneum was well preserved and showed no participation in the decidual reaction but the connective tissue layer beneath the peritoneal mesothelium presented small spindle shaped cells with dark ovoid nuclei and scanty cytoplasm from which the decidual cells appeared to be derived since all stages of transformation from this stem cell to the various forms of decidua cells were readily demonstrable The first phenomenon occurring in this transition consisted of an increase in the amount of cytoplasm which thereafter retained its characteristic ability to stain bluish gray with hæmatoxylin It was of no little interest that in the same locality phenomena occurred which indicated possible transition stages from the stem cells described to unstriated muscle fibers

In some areas the peritoneal endothelium had assumed an epithelial appearance with invaginations resembling gland formation This was particularly noticeable in severe cases of abruptio placentæ

E. L. CORNELL, M.D.

Jebson S The Metabolic Exchange Between the Placenta and the Mother's Blood (Zum Stoffwechselaustausch zwischen Placenta und mutterlichem Blute) *Zentralbl f Gynæk* 1928 p 2406

The changes which the residual nitrogen and its fractions undergo on passing through the placenta are not known The author attempted to determine which products of catabolic metabolism pass from the placenta into the mother's blood To this end he compared the blood of the radial and inferior epigastric arteries and the ulnar vein with that from the ovarian vein The study was limited to cases of cæsarean section The observations were made on oxalated blood by the micro Kjeldahl method The lactic acid determinations which were carried out in a few cases were made by the Hirsch Kaufmann method

In spite of the impossibility of always maintaining the required conditions on withdrawal of the blood the lactic acid content of the blood from the ovarian vein and the ulnar vein showed no difference The results obtained by von Oettinger are cited In cases of advanced pregnancy the author found the lactic acid values in the blood of the ulnar vein to be from 20 3 to 21 6 mgm per 100 c cm In eclampsia and pre eclampsia (four cases) there was an increase in the residual nitrogen in the blood from the ovarian vein Accordingly the author believes that in many instances of eclampsia increased decomposition products of protein metabolism find their way from the placenta into the mother's blood However he considers it easily possible that the metabolic products responsible for the convulsions may not be due to the residual nitrogen and that the increase in the residual nitrogen may be only a secondary phenomenon At any rate in both of the two cases of severe eclampsia studied the amount of residual nitrogen in the ovarian vein was considerably greater than that in the ulnar vein or radial artery (48 2 as compared with 32 2 mgm per 100 c cm and 102 7 as compared with 65 6 mgm per 100 c cm)

The investigations in normal pregnancy have led to no positive results

ROCK (G)

Burr C W Neurological Symptoms in the Pregnant Woman *Am J Obst & Gynec* 1929 xvii 653

Pregnancy interferes with the usual chemical processes of the body gives rise to new reactions and compels organs to take on new and temporary functions

All of the nervous abnormalities that occur during pregnancy occur also in other conditions Most of the disorders of pregnancy are due to perversion of chemical function caused by malfunction of the ductles glands

True chorea is much more serious in the pregnant woman than in the child Pregnancy is rarely more than the exciting cause of the attack Every person with chorea should be placed at rest in bed preferably in a hospital

No epileptic should have children

Women with Graves disease who become pregnant are almost never injured by their pregnancy Very frequently the symptoms become less marked and sometimes they cease permanently However the author does not advocate pregnancy as a cure for Graves disease He desires only to state that the association of this condition with pregnancy need not cause alarm

Multiple neuritis involving both legs is not due directly to pressure on the cords that go to make up the nerves but is the result of some intoxication In the cases of women addicted to alcohol pregnancy may increase the likelihood of painful acute multiple neuritis E L Cornell M D

Fogelson S J Cholecystography as an Aid in Determining Gall Bladder Stasis in Pregnancy *Am J Obst & Gyn c* 1929 xvii 613

In the cases of pregnancy reviewed by the author the incidence of failure of gall bladder visualization was surprisingly high Only 22 per cent of the patients had a visible shadow as compared with the controls of whom 20 per cent did not have a shadow (reversal of results) Moreover the frequency of failure of visualization increased as the pregnancies continued No gall bladder shadow was obtained after seven and a half months of pregnancy even in four cases in which an excellent shadow was obtained in the fourth and fifth months In cases in which a shadow was obtained after a fat meal it was noted that the gall bladder consistently emptied in the time accepted as normal for the non pregnant state In no instance was there any evidence of mechanical pressure from the enlarging uterus

The author concludes that in pregnancy a positive Graham Cole gall bladder test (failure to visualize the gall bladder) should be accepted skeptically as proof of gall bladder disease E L Cornell M D

Gibberd G F The Relation between Recurrent Albuminuria Chronic Nephritis and Toxæmia of Pregnancy *Brit M J* 1929 i 674

From a review of several series of cases of recurrent albuminuria reported in the literature and a study of forty seven cases in previously healthy women treated in the obstetrical department of Guy s Hospital Gibberd concludes that following the first attack of toxæmia of pregnancy (which is purely toxic in origin) about 10 per cent of women develop frank chronic nephritis about 40 per cent recover their kidney function completely and have no recurrence in subsequent pregnancies and about 50 per cent suffer from recurrent toxæmia in later gestations Women in the last group have an occult nephritis resulting from the first toxæmia which cannot be detected by renal function tests between pregnancies but is revealed by pregnancy the most delicate test of renal function that we possess

Of the women studied by Gibberd six developed chronic nephritis after an average toxæmia period of nine weeks Of twenty seven with a toxæmia lasting three weeks or less before the termination of pregnancy recurrence developed in 40 per cent whereas in fourteen whose pregnancies were terminated some time later than three weeks after the first appearance of albuminuria recurrence developed in 70 per cent These findings are similar to those reported by Harris and Young who also noted a higher incidence of chronic nephritis following albuminuria without convulsions than following eclampsia in which condition the toxæmia is very severe but usually of relatively short duration

Gibberd therefore concludes that albuminuria in previously healthy women is due to a primary toxæmia whereas recurrent albuminuria is of a mixed type being both toxæmic and nephritic He states that while the early induction of labor in the first attack of toxæmia will decrease the danger of chronic nephritis and recurrent toxæmia there are other as yet unknown factors tending to produce permanent renal damage in such cases

E I King M D

Wetterdal P *Studies* of the Non Protein Nitrogen Uric Acid and Amino Acids in the Blood of Pregnant and Recently Delivered Women Suffering from Albuminuria Eclampsism or Eclampsia *Acta obst et gynec Scand* 1928 vii 275

The author determined the non protein nitrogen uric acid and amino acid content of the blood of 11 normal pregnant or *recently* delivered women and 144 women with toxicoses of pregnancy including 26 with eclampsia *In most* cases the determinations were repeated and in some of them as many as 6 determinations were made at intervals of two or more days

By means of such determinations particularly those of non protein nitrogen and uric acid it is possible to distinguish between cases of pregnancy toxicosis and cases of nephritis in pregnancy causing an increase in the non protein nitrogen *The* uric acid determinations showed increased values in the serious cases at the height of the disease or a few days later The non protein nitrogen and amino acid values have no prognostic significance

No connection could be found between the values obtained for the non protein nitrogen uric acid or amino acids and the blood pressure amount of urine or quantity of albumin in the urine

LABOR AND ITS COMPLICATIONS

LeLorier V My Experience with the Method of Delmas (Mon expérience actuelle de la méthode de Delmas) *Rev franç de gynéc et d obst* 1929 xxiv 1

The author dislikes spinal anæsthesia but was persuaded by the findings of Delmas to use it in eight cases to facilitate rapid manual dilatation and quick delivery The indications were death of the fetus and rupture of the membranes in three cases and arrested dilatation excessive size of the fetus unrecognized shoulder presentation and hysteralgia in one case each In one case there was no particular indication

In the five cases in which the child was living the result so far as the child was concerned was excellent In three cases in which internal version was done—in one following the failure of forceps—the result was excellent for the mother as well as the child There were three forceps applications two craniotomies and one morcellation One woman died an hour and a half following delivery from hæmorrhage due to uterine inertia and shock In one case it was impossible to obtain satisfactory dilatation Cervical tears of moderate degree occurred in all but one case and perineal tears (none complete) in several cases

In conclusion the author states that while in some cases the method of Delmas definitely facilitates forcible dilatation of the cervix and is a valuable procedure when rapid evacuation of the uterus is necessary it remains an accouchement forcé and should be used only in the presence of strict indications The possibility of delayed uterine inertia with serious hæmorrhage must be borne in mind

GOODRICH C SCHAUFFLER M D

Metzger M Some Observations on Dystocic Deliveries under Spinal Anæsthesia (Quelques observations d accouchements dystociques sous rachianesthésie) *Rev franç de gynéc et d obst* 1929 xxiv 14

Persuaded by the favorable report of Delmas the author undertook rapid manual dilatation of the cervix and delivery in five cases of relative dystocia

In the first case he found it impossible to dilate the cervix rapidly as described by Delmas In the second case serious difficulty was experienced in the application of the forceps and in the third case moderate difficulty was experienced in accomplishing version *In the fourth case* death resulted from hæmorrhage on the fourth day after delivery and in another a serious hæmorrhage occurred suddenly following the third stage In the fifth case embryotomy was rendered difficult by uterine hypertonicity

In the use of the Delmas procedure Metzger has noted a characteristic uterine hypertonicity a sort of hypercontraction during the second stage He states that relaxation of this contraction occurs suddenly and is associated with grave danger of hæmorrhage The cervical relaxation is real and even exaggerated but does not occur in the fibrotic cervix and its failure in the presence of strong expulsive contractions by the fundus may result in serious injury

GOODRICH C SCHAUFFLER M D

Cathala V Rapid Delivery by Manual Dilatation of the Cervix under Spinal Anæsthesia in a Case of Tuberculous Laryngitis (Accouchement rapide par dilatation manuelle du col sous anesthésie rachidienne pour tuberculose laryngee) *Rev franç de gynéc et d obst* 1929 xxiv 20

Cathala reports a case in which dilatation the size of a quarter was easily increased to practically complete dilatation in a few minutes under spinal anæsthesia Forceps application and delivery were uncomplicated He believes however that chloroform anæsthesia would have been equally satisfactory and that because of the risks it entails the Delmas procedure should be employed only when it is very definitely indicated

GOODRICH C SCHAUFFLER, M D

Fairbairn J S Sedatives in Labor Particularly Twilight Sleep *Brit M J* 1929 i 753

When a woman is fatigued by the pains of a slow first stage labor prolongation of the labor results In such cases Fairbairn gives a hypodermic injection of from ¼ to ½ gr of morphine occasionally supplemented by a sleeping draught such as a mixture of bromide and chloral He gives such an injection also in cases of so called rigidity of the os which is nearly always spasmodic being due to poor or irregular uterine action

Fairbairn induces a modified twilight sleep in cases of slight disproportion between the head and pelvis in the cases of women with cardiac conditions who were treated for decompensation during pregnancy and in the cases of women of an excitable temperament He employs the morphine hyoscine chiefly during the first stage preferring a light general anæsthesia during the second stage especially toward its termination He believes that the more general use of ½ ccm of pituitrin would lessen the number of forceps deliveries

E L KING M D

Brzezinskij V Obstetrical Forceps of the Russian School 826 Cases in Which the Lazarevič Fedorov Forceps Were Used (Geburtshilfliche Zange der russischen Schule 826 Fälle von Anwendung der Lazarevič Fedorovschen Zange) *Zurnal akuserst i Zensk bolez* 1928 xxxix 5

In 1866 the well known Russian obstetrician Lazarevič proposed a new forceps model which was later modified a number of times by himself and finally in 1887 by Fedorov In its perfected form the forceps was used altogether 826 times in twenty nine years in the Warsaw University Clinic and the

Lying In Hospital of Djetskoye Selo Twenty five per cent of these occasions represented high forceps interventions In the latter there was no maternal mortality the infant mortality was 18 8 per cent (corrected 9 1 per cent) and the incidence of injuries to the soft parts 22 2 per cent The total maternal mortality was 0 the total infant mortality 5 7 per cent the incidence of injuries of the soft parts 12 8 per cent and the incidence of infection in the puerperium 6 4 per cent

The e remarkably good results are attributed to the peculiarities of con truction of the Lazarevič Fedorov forceps The forceps consists of two straight parallel fenestrated spoons 36 cm long not cros ing each other and not bent to follow the curve of the pelvis The lock which is at the end of the handle is a rectangular plate running inward transversely fitting into a corresponding oval opening in the other spoon and made fast with a screw Between the head curve and the handle is a long middle portion

This peculiar construction allows a biparietal application of the forceps in any position of the head When the sagittal suture is oblique the forceps is applied in the same manner as the classical forceps When the sagittal suture run transversely first one spoon and then the other is introduced directly between the child s head and the symphysis or the promontory with the concavity facing the head so that the forceps lies in the perpendicular diameter of the pelvis If the head is in high position the tips of the forceps must be lowered considerably therefore it is frequently necessary to slit the perineum

The rotation of the head takes place without difficulty Slipping of the forceps is rare Because of the close correspondence of the curve of the spoon to the shape of the head and the length of the blade between the tip and the handle injuries to the soft parts are few The parallel application of the forceps spoons (without crossing) practically prevents gross injuries to the child s head This forceps a precursor of the Kjelland forceps is warmly recommended Because of its simplicity it should give particularly good service in rural practice SCHEINMANN (G)

PUERPERIUM AND ITS COMPLICATIONS

Miller D The Importance of Postnatal Maternal Care *Brit Med J* 1931 i 717

The author believes that postpartum care should be given more consideration than it receives at present and that it is as important a field of preventive medicine as antepartum observation

For the immediate convalescence he recommends the more or less standardized treatment plus simple exercises to be employed after the patient s discharge from the hospital to restore the tone of the abdominal and perineal muscles Two weeks after delivery he makes a vaginal examination to determine the condition of the organs the state of healing of lacerations and the position of the uterus If retroversion is found the uterus is replaced and if it recurs one week later it is again corrected and a pessary is introduced The patient is examined a second time five weeks later and a third time from five to seven weeks later

In the postpartum clinic of the Edinburgh Royal Maternity Hospital more than 2 000 patients have been studied in the past two years In 1 400 (70 per cent) the general health was satisfactory and the local pelvic condition showed no impairment In 18 per cent retroversion was found In the majority of cases this had developed during the third or fourth week after the patient s discharge from the hospital and in many was associated with subinvolution Most of the patients with retroversion were women of the poorer classes who had resumed hard work too soon after delivery When retroversion was present before or during pregnancy it was especially liable to recur after confinement The patients usually complained of low sacral backache pelvic discomfort and prolonged lochia rubra but in some instances these symptoms may have been due to associated conditions such as subinvolution Replacement and pessary treatment generally sufficed If the condition recurred the pessary treatment was continued for six months

Laceration of the cervix generally associated with eversion was found in about 15 per cent of the primiparæ In the multiparæ its incidence could not be estimated because of lesions arising in previous labors Cervical lacerations were found in almost every patient in whom complete dilatation and effacement had not occurred spontaneously The author is an advocate of immediate repair of such lacerations but states that when this is not done later treatment with tampons douches and cauterization with the actual cautery or 10 per cent silver nitrate may give satisfactory results In rare instances plastic repair is necessary

Subinvolution was found in 12 per cent of the patients whose cases are reviewed Frequently it was associated with and apparently caused by cervical lesions or retroversion Retention of fragments of placenta or membranes was the cause very rarely The treatment consisted in correction of the associated lesions together with douching tamponing and the administration of quinine and ergot Curettage was seldom necessary Involution was promoted by maintenance of normal lactation

Backache generally of the lumbosacral or sacroiliac type was complained of by 8 per cent of the patients and was corrected by posture exercises and a brace or corset Persistence of hypertension and albuminuria was found in more than 30 per cent of the toxic patients I L KLEIN M D

Adair F L and Tiber L J Infection in the Puerperium with an Analysis of 8 000 Cases *Am J Obst & Gynec* 1929 xvii 559

In attempts to curtail and if possible eliminate puerperal septicæmia it is necessary to gain a clearer

idea of the factors producing susceptibility and resistance to infection particularly to infection by the streptococcus The relationship between streptococcic diseases and puerperal sepsis should be better understood Natural and acquired immunity should be studied with reference to puerperal infection

It is possible that streptococcic toxin may afford an index of the susceptibility of the patient to streptococcic infection and that the patient s immunity to streptococcic infection may be increased

The relatively low incidence of scarlet fever and the high incidence of puerperal sepsis among negroes may be explained by the supposition that at an early age negroes are resistant to scarlet fever but later in life lose this relative immunity and acquiring no group immunity to streptococcic infections from having had scarlet fever are more susceptible to inoculation with the streptococcus

While negroes seem more resistant to certain known strains of streptococcic diseases than white men they seem to have about the same susceptibility to measles This observation suggests that measles is not a streptococcic disease

E L Cornell M D

Iolak J O Is Surgical Intervention Justifiable in the Treatment of Metrophlebitis and Thrombophlebitis of the Pelvic Veins? *Am J Obst & Gynec* 1929 xvii 467

Thrombophlebitis is defined as a conservative process following an endometrial infection which because of poor contraction and retraction of the uterus is not confined to the uterin cavity Th is always a cellular reaction in and about the vein The clinical syndrome is clean cut but physical signs are lacking or misleading because there is always some periphlebitis present

As any manipulation bimanual examination or operation breaks down the protective barrier a the septic woman is a poor surgical risk and as the mortality from operation is high even in the best clinics Iolak believes that operation is not warranted

E I Cornell M D

NEWBORN

Rydberg E The Prognosis in Cases of Survival of Intracranial Hæmorrhages of the Newborn (*Ueber die Prognose uebe lebender Faelle intrakranieller Blutun en Neugeborener*) *Acta obst & gynec Scand* 1928 vii 323

The author has followed up the development of thirty seven children who showed clinical symptoms of intracranial hæmorrhage immediate y after birth but survived the acute stage of the condition

On re-examination about half of them were entirely free from symptoms or showed only slight disturbances of the ocular neuromuscular apparatus such as strabismus In not quite a half the abnormalities presented were so marked that the child s ultimate working capacity will probably be materially reduced Approximately one third of the children were imbeciles or idiot

Three cases are reported in detail

GENITO-URINARY SURGERY

ADRENAL KIDNEY AND URETER

Peirson E L Jr The Emptying Time of the Kidney Pelvis *N England J Med* 1929 cc 939

PEIRSON determined the emptying time of the kidney pelvis in 100 cases by taking an X ray picture nine minutes after the pelvis and ureter had been filled with sodium iodide solution and the ureteral catheter had been withdrawn His findings indicate that the normal kidney is more than three quarters empty at the end of nine minutes When there is definite obstruction to the overflow of urine the second plate usually shows marked retention of the opaque medium and the latter will be seen extending down the ureter to the point of obstruction

ELMER HESS M D

Thompson A R Solitary Kidney *Guy's Hosp Rep* Lond 1929 lxxix 207

In a review of 12 888 autopsy reports Thompson found a record of solitary kidney in only 32 The condition was therefore discovered only once in 400 autopsies

Solitary kidney is defined as a single renal mass with renal function which lies on one side of the abdomen It occurs with about equal frequency in both sexes but the right kidney is more frequently absent in males than in females and the left kidney is more frequently absent in females than in males

Thompson has found that the function of the hypertrophied kidney (solitary kidneys are usually hypertrophied) is poor Function is interfered with by the tendency of the heavy kidney to drop More over when a solitary kidney is situated at a lower level than that occupied by a kidney of normal size the ureter may become kinked and hydronephrosis may be produced A large proportion of deaths in cases of solitary kidney are due to infective processes

The presence of two ureteral orifices in the bladder does not by any means indicate the presence of two kidneys Cystoscopy previous to an urgent operation may be useless or even misleading Whenever the removal of an injured kidney is considered under urgent circumstances the surgeon should palpate for the other kidney through the incision

Little is known regarding the blood supply of the solitary kidney In 9 of the cases reviewed there was no artery but in 1 case in which the left kidney was absent a minute left renal artery was found

JACOB S GROVE M D

Thompson A R Horseshoe Kidney *Guy's Hosp Rep* Lond 1929 lxxix 201

This article is based on the records of 19 cases of horseshoe kidney discovered in 13 000 autopsies performed at Guy's Hospital the London Hospital and the Victoria Hospital for Children The ratio of males to females was 1½ 1 Sixteen of the subjects were males The ages of the subjects ranged from one year and two months to seventy two years The average age of the males was thirty five years and the average age of the females twenty four years

Horseshoe kidney appears to lie at a lower level than the average normal kidney The union of the kidneys by a bridge of tissue takes place either at the upper or the lower pole but by far more commonly at the lower pole The average weight of horseshoe kidneys in adults is about 15 oz which is slightly more than the weight of the two combined normal kidneys The ureters usually pass in front of the mass In 1 of the cases reviewed there was only 1 ureter When the blood supply was mentioned in the records it was described as practically normal Pathological conditions found included nephritis renal stones and cystic disease Cystic disease was present in 10 per cent of the cases Nearly one third of the deaths were due to an infective process and about 10 per cent to suicide

CLAUDE D HOLMES M D

Ritter S A and Baehr G The Arterial Supply of the Congenital Polycystic Kidney and Its Relation to the Clinical Picture *J Urol* 1929 xxi 563

The clinical course of congenital bilateral polycystic kidney may be uneventful until late in life As a rule occasional attacks of lumbar pain are experienced and sometimes these are followed by persistent hæmaturia The pain and hæmaturia are caused by the rupture of arteries of various sizes which lie in the walls of the cysts or stretch across their lumina enveloped merely in a thin falciform fold of the cyst wall Rupture of the overstretched arteries into a cyst cavity may be produced by trauma or may occur as the result of arterial hypertension and local arteriosclerotic changes in the vessel walls Rupture upon the surface of the kidney may be followed by the formation of a perirenal hæmatoma

At some time during adult life—as early as the third decade or as late as the sixth decade but usually the former—sclerosis of the arterioles and small arteries of the kidney and perhaps other organs begins This pathological process manifests itself clinically by arterial hypertension and cardiac hypertrophy The earliest disturbances in renal function are usually polyuria nocturia and fixation of the specific gravity of the urine Eventually the nitrogenous constituents gradually increase in the blood and the terminal clinical picture of a dry uræmia develops

Except for the attacks of pain and hematuria this sequence of events is indistinguishable from that which is observed in the cases of patients with primary arteriolar sclerosis (malignant hypertension) and those in the late stages of chronic glomerulonephritis who have survived the period of nephritic œdema The authors believe that they have demonstrated by means of arterial injections and microscopic study that the clinical course of patients with congenital bilateral polycystic disease is essentially the result of the same obliterative process in the arterioles and small arteries of the kidneys

LOUIS NEUWELT M D

De Rom F The Phenolsulphonephthalein Test of a Single Kidney in Experimental Tuberculosis (L épreuve de la phénolsulphonphtaléine dans la tuberculose expérimentale du rein unique) *J d urol méd et chir* 1928 xxvi 521

In a number of experiments performed by the author on rabbits a nephrectomy was performed and a period allowed for the remaining kidney to compensate As a rule the single kidney acquired a secreting power equal or superior to that of two normal kidneys (50 to 60 per cent in seventy minutes) in from ten to fifteen days It was then exposed a suspension of bovine tubercle bacilli was injected into the parenchyma and the effect of the tuberculous infection on the phenolsulphonephthalein excretion was noted After a time the animals were sacrificed and the lesions studied with regard to the phenolsulphonephthalein output

In general the extent of the lesions correspond very closely to the reduction of the excretory power of the kidney, but in one instance a remarkable divergence occured In the presence of extensive lesions the excretion was 80 per cent nine days before the rabbit died and 75 per cent just before its death

Ambard has shown that the secretory capacity of a kidney may be tripled without a corresponding hypertrophy Therefore it can be understood that a kidney may suffer destruction of two thirds of its parenchyma yet preserve a normal phenolsulphonephthalein output ALBERT F DEGROAT M D

Larget M Lamare J P and Moreau E Some Results of the Treatment of Inoperable Tuberculosis of the Kidney with Vaudremer's Vaccine (Tuberculoses renales inopérables essai de traitement par le vaccin de Vaudremer quelques résultats) *J d urol méd et chir* 1928 xxvi 556

This is a detailed report of four cases of renal tuberculosis in which Vaudremer's vaccine was used because operation was contra indicated or was refused by the patient In every instance there was marked improvement in the general health following the treatment the pyuria was largely or entirely relieved the tubercle bacilli disappeared from the urine and the functional capacity of the kidney as determined by the phenolsulphonephthalein test and Ambard's constant was increased

The authors believe that the vaccine treatment in no way modifies the indications for operative treatment but that it offers considerable promise in inoperable cases

In their cases with bladder lesions the diluted vaccine was applied locally or instillations of methylene blue were employed Both treatments gave about the same results

In the discussion of this report MAISSONET stated that the improvement in the general condition was not surprising as it is often observed in the absence of treatment but that the changes in the urine were of the greatest significance

LEGUEU said that in operating on patients who had been previously treated with the vaccine with excellent clinical results he found the lesions in the kidney in no way modified by the treatment He therefore advocates the vaccine treatment for inoperable cases but believes it offers no hope of cure

MICHON stated that he regards the vaccine treatment as a true therapeutic advance

MARSAN reported cases in which long remissions occurred without treatment of any kind

ALBERT F DEGROAT M D

Gruber C M A Comparative Study of the Intravesical Ureters (Ureterovesical Valves) in Man and in Experimental Animals *J Urol* 1929 xxi 567

From studies of the bladders of thirty eight rabbits forty pigs ten cats thirty five dogs two monkeys one baboon one ape and fifteen human beings Gruber concludes that because of the differences in the trigones and intravesical ureters in the bladders of different animals it is not justifiable to apply the experimental data derived from one animal to another

The trigone is most poorly developed in the rabbit and most highly developed in man Bell's muscle appears to be entirely lacking in the rabbit and is most highly developed in the cat The difference in the amount of fluid regurgitated in the different species of animals is probably due to the difference in the length of the ureterovesical valve (intravesical ureter) the degree of development of Bell's muscle and the thickness of the bladder wall LOUIS NEUWELT M D

Thompson A R Renal and Ureteric Stone Formation *Guy's Hosp Rep* Lond 1929 lxxix 173

This article is based on a large number of autopsies performed at Guy's Hospital the London Hospital and the Victoria Hospital for Children in London

The term stone is applied by the authors to any collection of precipitated mineral matter in the urinary tract The findings of the autopsies indicate that in the first decade of life stones occur in the urinary tract with equal frequency in both sexes From the eleventh to the fortieth year of life they are more common in the female whereas after the

fortieth year they are more common in the male They occur slightly more frequently on the right side than the left side

Stones in the urinary tract are found most commonly in the renal pelves and calyces The so called traveling stone may pass from the kidney down the ureter to the bladder and finally out through the urethra In the male this type of stone becomes impacted with greater frequency in the right than the left ureter

Not uncommonly a diagnosis of Bright s disease is made in cases of renal or ureteral stone Stone is often the cause of Bright s disease Bright s disease following stone formation is more common in males than in females but pyonephrosis is more common in females than in males

Stones may form in the urinary tract as the result of a wasting disease

Compensatory hypertrophy of one kidney when the other is diseased is not nearly so common as is generally supposed

Local spread of disease of the kidney due to the presence of stones is very rare

The author cites three cases of tumor in which stones appeared to play a part and one case in which a pyonephrosis due to stone burst into the colon CLAUDE D HOLMES M D

Chevassu M and Lazard P The Use of Laminaria Tents Mounted on a Ureteral Catheter to Dilate the Lower Ureter (L emploi de laminaires montées sur sonde urétérale pour la dilatation de l uretère inférieur) *J d urol méd et chir* 1928 xxvi 543

The authors have successfully employed laminaria tents to dilate the lower end of the ureter in cases of stricture and stone At first a stick of laminaria was engaged in the end of a ureteral catheter and transfixed by a silk thread which was left long to prevent loss of the laminaria in the bladder Today especially manufactured sounds are available

The tent must be introduced rapidly before it has time to lose its rigidity It is left in the ureter for from ten to twenty minutes In case of stone it is placed in contact with the stone never past it Because of the danger of its becoming detached from the catheter the tent must never be passed completely into the ureter

ALBERT F DEGROAT M D

Campbell M F and Lyttle J D Ureteral Obstruction in Infancy A Clinicopathological Study of Seventy Four Cases *J Am M Ass* 1929 xcii 544

The authors present a preliminary report of a study of seventy four cases of ureteral obstruction in infants and children In many the condition was first demonstrated at autopsy In more than half of the cases the obstruction was due to stricture of the ureter either intrinsic or extrinsic This condition is markedly benefited by cystoscopic dilatation The causes of intrinsic ureteral obstruction include calculi kinks of the ureter associated with renal ectopia ureteral reduplication abnormal insertion of the ureter and ureteral spasm Causes of extrinsic obstruction are aberrant vessels periureteral sclerosis and extra urinary neoplasms

The authors stress the ease of making detailed urological examinations even in very young children and advise cystoscopic study in every case of pyuria lasting over a period of from four to six weeks They state that young children are more tolerant to such examinations than adults

I J SHAPIRO M D

Rankin F W and Mayo C 2nd Uretero Entero ventral Fistula *Ann Surg* 1929 lxxix 669

Rankin and Mayo report a case of urinary and fæcal fistula secondary to an infected ectopic kidney on the left side which had been partially removed at an operation performed before the patient entered the Mayo Clinic

Operation at the Clinic revealed a drainage tract extending from just below the umbilicus into a cavity which communicated with the left ureter It was evidently from the old renal cavity The wall of the cavity was tightly adherent to the common iliac vessels on the left side About 100 c cm of thick creamy pus poured out when an opening was made into the remnant of the renal pelvis A small opening which connected the cavity with the ileum was found and closed. The ureter was traced down tied near the bladder with silk and dropped back into the abdominal cavity The dissection was carried out mostly in the mesentery of the sigmoid The sigmoid as found on roentgen ray examination lay on the right side The pathologist s report of a section of the tract was Inflammatory sinus tract with attached inflammatory ureter

The patient was dismissed twenty seven days after the operation with the wound healed He weighed 121 lbs The convalescence and the results were satisfactory

BLADDER URETHRA AND PENIS

Maister H I Ogilvie W H and Pembrey M S A Case of Total Cystectomy with Some Investigations on Urinary Secretion *Guy s Hosp Rep* Lond 1929 lxix 220

The authors report a case of total cystectomy in which the ureters were brought to the anterior abdominal wall and observations were made on the excretion of urine by the two kidneys

The stimulus of a diuretic such as a cup of tea caused a marked increase in the activity of the kidneys It appeared also that warming of the skin over one loin produced a vasoconstriction of the underlying kidney and since the skin apart from that area was cold compensation was effected in the opposite kidney by vasodilatation and increased excretion However the results were not constant

The authors call attention to the need of observations to confirm or disprove the theory that in cases of hæmaturia a hot fomentation to the affected side diminishes the loss of blood They state that such an effect is probable if warming of the skin of the loin is accompanied by a reflex contraction of the blood vessels of the underlying kidney

JACOB S GROVE M D

Young H H The Treatment of Complete Rupture of the Posterior Urethra Recent or Ancient by Anastomosis *J Urol* 1929 xx 417

The author reports nine cases of fracture of the pelvis complicated by rupture of the urethra In all the fracture was caused by a crushing blow The rupture occurred behind or at the triangular ligament Most of the patients had received preliminary treatment before they were seen by Young The symptoms were varied and the treatment included a wide range of operative maneuvers

Delay of operation was the cause of death in one case and led to serious complications in several of the others Therefore a careful investigation of the urinary tract should be made in all cases of fracture of the pelvis In almost every case in which the posterior urethra is ruptured the safest procedure is immediate operation with anastomosis if the rupture is complete or closure of the defect over a catheter if the rupture is not complete When perineal and suprapubic drainage is established the danger of infection is avoided and excellent results are obtained The author s cases with complications were finally cured by very extensive operations including the resection of vesicoperineal fistulæ Young s double plastic sphincter operation for urinary incontinence and the Young Stone operation for recto urethral fistulæ JOHN G CHEETHAM M D

Hirsch E W Proof of the Impossibility of Cauterizing the Urethral Glands through the Urethroscope *J Urol* 1929 xxi 513

To demonstrate the impossibility of electrical or chemical cauterization of the urethral glands the author has made photomicrographs of the gland The first illustration shows a urethral mucous gland magnified forty five diameters and a wire of natural size The second shows a urethral submucous gland magnified sixty diameters and a wire of natural size The third shows both a gland and a wire magnified sixty diameters It was impossible to pass the orifice much less follow the ramifications of the gland

CLAUDE D PUTNEY, M D

GENITAL ORGANS

Turner G G Unusual Symptoms Due to Enlargement of the Prostate *Brit M J* 1929 I 233

Enlargement of the prostate may give rise to marked gastro intestinal symptoms simulating those of intrinsic gastric or intestinal disease In some cases the condition causing the patient to consult the physician may be an inguinal hernia or hæmorrhoids the urinary symptoms being disregarded In malignant disease of the prostate the first symptoms are frequently found to be sciatica lumbago and œdema of the legs

By operating in two stages the author has reduced the mortality in his cases to 5 per cent

I J SHAPIRO M D

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES TENDO IS ETC

Santos J V Multiple Osteocartilaginous Exos toses with Neurological Manifestation Case Report *J Bone & Joint Su g* 1929 xi 60

Santos reports a case of multiple osteocartilaginous exostoses with a lesion of the spinal canal causing neurological manifestations After laminectomy with removal of the tumors the areas of hyper æsthesia disappeared the stiffness of the leg de creased and the patient was able to urinate without difficulty ELVEN J BERKHEISER M D

Chrysospathes J G The So Called Ollier Growth Disturbance (Beitrag zur o enannten Oll erschen Wachstumstoerung) *Ztsch f orthop Chir* 1929 li 177

The author has had a typical case of Ollier s growth disturbance under observation since 1907 The condition began during the patient s third year of age and has remained unchanged since 1907 There is very marked anterior and lateral bowing of the right leg beginning in the supracondylar region and associated with shortening of about 10 cm The foot is shortened 4 cm and the metatar sus widened about two finger breadths With the exception of the hip all of the joints are loosened Roentgen examination reveals thickening of the distal epiphysis of the femur and a finely nodular exostosis the size of a pigeon s egg above the internal condyle There is faulty delineation between the corticalis and spongiosa The latter shows a diffuse clouding in the femur and tibia with round patches of lighter shadow between the cloudy areas The first metatarsal is greatly enlarged In the second metatarsal there is a nut sized round tumor with the structure of a chondroma which has reduced the size of the other metatarsals and pushed them outward The phalanges are deformed and thick ened Everywhere there are round clear areas which on the basis of the pathological findings of Hackenbroch and Lind troem are to be considered chondromata The patient walks with the aid of a crutch

From a comparison of this case with the ten which have been reported in the literature to date the author has come to the conclusion that Ollier s growth disturbance is based on a chondromatosis that the accompanying disturbances in development are explained by the preponderating involvement of the epiphyses and that the unilateral involvement generally believed to be characteristic of the condi tion is not constant Up to the present time no nerve changes have been demonstrated as the basis of the di turbance The best theory as to the etiology seems to be that of Recklinghausen which ascribes the condition to a disturbance in the car tilage anlage during the earliest period of trans formation of cartilage into bone Separation of Ollier s growth disturbance from similar disease pic tures is not justified All such conditions should be designated as chondromatous disturbances

SIEVERS (Z)

Oljenick I Bilateral Cervical Rib Clinical and Experimental Observations on a Case *Arch Surg* 1929 xviii 1984

The author reports a case of bilateral cervical rib with gradually increasing circulatory disturbances on the left arm only At operation the symptoms were found to be due to an apparently complete thrombosis of the subclavian artery The return of the radial pul e alone ten days after the opera tion indicated an increase of the collateral circula tion while the re appearance of the brachial pulse four months after the operation suggested canaliza tion or organization of the thrombus

In order to pass over the cervical rib the sub clavian artery formed a high and narrow loop The angle between the scalenus anticus muscle and the cervical rib was very narrow especially as the supernumerary rib had a straight instead of a curved shape Under such circumstances the danger of compression is greatly increased because the ar tery may be imprisoned by dense bands extensions of the sheath of the scalenus anticus The high and narrow arterial loop and the sharp angle through which the vessel passes favor the origin and develop ment of circulatory disturbances as the result of repeated traumatisms

The circulatory disturbances may be caused by arterial compression or obstruction by thrombosis but generally are due to both since in such cases thrombosis is a sequel of compression The disturb ances may be permanent or temporary and change considerably according to the arterial blood supply required in the extremity

In the case reported the vascular phenomena were pallor coolness numbness and cyanosis of the hand and fingers In addition to these signs there was a marked tendency toward fatigue in the arm

The skin temperature determinations plethys mograms and sphygmograms made simultaneou ly on both sides during rest during and after exercise of the upper arm forearm and hand and after cool ing alone or combined with exercise furnished ob j ctive evidence of the impairment of the circulation in the left arm This was particularly marked during exercise and when there was a loss of heat

The division of the scalenus anticus at its insertion as originally advised by Adson is a simple and effi

The authors call attention to the need of observations to confirm or disprove the theory that in cases of hæmaturia a hot fomentation to the affected side diminishes the loss of blood They state that such an effect is probable if warming of the skin of the loin is accompanied by a reflex contraction of the blood vessels of the underlying kidney

JACOB S GROVE M D

Young H H The Treatment of Complete Rupture of the Posterior Urethra Recent or Ancient by Anastomosis *J Urol* 1929 xxi 417

The author reports nine cases of fracture of the pelvis complicated by rupture of the urethra In all the fracture was caused by a crushing blow The rupture occurred behind or at the triangular ligament Most of the patients had received preliminary treatment before they were seen by Young The symptoms were varied and the treatment included a wide range of operative maneuvers

Delay of operation was the cause of death in one case and led to serious complications in several of the others Therefore a careful investigation of the urinary tract should be made in all cases of fracture of the pelvis In almost every case in which the posterior urethra is ruptured the safest procedure is immediate operation with anastomosis if the rupture is complete or closure of the defect over a catheter if the rupture is not complete When perineal and suprapubic drainage is established the danger of infection is avoided and excellent results are obtained The author's cases with complications were finally cured by very extensive operations including the resection of vesicoperineal fistulæ Young's double plastic sphincter operation for urinary incontinence and the Young Stone operation for recto urethral fistulæ JOHN G CHEETHAM M D

Hirsch E W Proof of the Impossibility of Cauterizing the Urethral Glands through the Urethroscope *J Urol* 1929 xxi 523

To demonstrate the impossibility of electrical or chemical cauterization of the urethral glands the author has made photomicrographs of the glands The first illustration shows a urethral mucous gland magnified forty five diameters and a wire of natural size The second shows a urethral submucous gland magnified sixty diameters and a wire of natural size The third shows both a gland and a wire magnified sixty diameters It was impossible to pass the orifice much less follow the ramifications of the gland

CLAUDE D PURELL M D

GENITAL ORGANS

Turner G G Unusual Symptoms Due to Enlargement of the Prostate *Brit M J* 1929 i 233

Enlargement of the prostate may give rise to marked gastro intestinal symptoms simulating those of intrinsic gastric or intestinal disease In some cases the condition causing the patient to consult the physician may be an inguinal hernia or hæmorrhoids the urinary symptoms being disregarded In malignant disease of the prostate the first symptoms are frequently found to be sciatica lumbago and œdema of the legs

By operating in two stages the author has reduced the mortality in his cases to 5 per cent

I J SHAPIRO M D

the epidural space When localized the abscess may simulate a spinal cord tumor In some cases it may provoke meningitis or myelitis The dangers of lumbar puncture under such circumstances are very great

The formation of a gibbus is rare because it can result only from severe infections which are almost invariably fatal

Thrombophlebitis of the vertebral plexus may lead to fatal pyæmia

Clinically vertebral osteomyelitis presents many aspects which depend on the location and the virulence of the infection

On the basis of the virulence of the infection the septicæmic form has little interest The suppurative form is more important It is manifested as an ordinary abscess of one of the paravertebral grooves and is common in both children and adults In the child the lesion may appear as a complication of osteomyelitis of the extremities In the adult it may be a metastasis from a furuncle or carbuncle The onset is sudden with chills fever and headache Violent lumbar pain usually suggests meningitis smallpox or scarlet fever A typhoid state supervenes and for the first week the nature of the condition is uncertain The diagnosis is established by more exact localization of the pain in the back and the appearance of an abscess usually fusiform lateral to the vertebræ The exact point involved is difficult to determine Roentgen ray examination is ldom of any a d

The mortality of the acute form is very high although after simple incision of the abscess a cure was obtained in 28 of 40 reported cases In the non fatal cases the portion of the vertebra affected is usually the arch The anterior form of the condition is usually fatal sooner or later because of the chronic suppuration or a complication Even after an apparent cure in this form of the condition a fatal recurrence of the infection is not uncommon

The more chronic infection closely resembles Pott s disease The diagnosis is difficult and can be made with certainty only by demonstrating the staphylococcus or the tubercle bacillus in pus obtained by aspiration Gibbus is rare in osteomyelitis Roentgen ray examination is of doubtful value

When the abscess is located in the vertebra canal *the injection of lipiodol is of great value in determining its extent*

As treatment the author recommend the systematic use of vaccine therapy from the moment the condition is suspected This treatment is justified by a number of favorable results Abscesses should be incised as soon as they appear regardless of operative difficulties that may be involved When the necrotic bone can be reached it should be curetted Laminectomy should be resorted to whenever the laminæ are affected and particularly when the abscess is in the epidural space When the lesion is in the body of the vertebra it must be exposed and the vertebra curetted The object of the operation should be to obtain free drainage rather than to remove sequestra Sequestra are small and will be eliminated spontaneously When incision does not reveal an abscess the exploration should be continued until the abscess is located There should be no hesitation in re-opening the wound if a new focus becomes apparent

Numerous cases illustrating the various phases of vertebral osteomyelitis are cited

ALBERT F DEGROAT M D

Rietema L P and Keijser S Calcinosis Intervertebralis *Acta radiol* 1928 ix 606

The authors report two cases of calcinosis intervertebralis the deposition of calcium in the intervertebral disks Both patients were sent to the hospital because they were suspected to be suffering from spondylitis

Brailsford J F Deformities of the Lumbosacral Region of the Spine *Brit J Surg* 1929 xvi 562

This article is based on a study of the roentgenograms of over 3 000 patients in various types of hospitals clinical examination of those whose roentgenograms showed deformity of the lumbosacral area and dissection and roentgen study of the lumbosacral area of 40 cadavers

The author states that developmental irregularities may be present in the lumbosacral region of the spine without giving rise to symptoms Their frequency (26 4 per cent in the patients examined) and their types should be borne in mind in the interpretation of roentgenograms of this region and a careful investigation into all possible causes of the symptoms of which a patient complains should be made before the symptoms are attributed to such an irregularity

The most frequent deformity associated with developmental irregularity is scoliosi due to asymmetrical sacralization of the fifth lumbar transverse process The deformities due to developmental anomalies which cause alterations in the alignment of the vertebræ tend to become more pronounced with age

The characteristic indication of spondylolisthesis in an anteroposterior roentgenogram is continuity of the outline of the transverse process and the anterior border of the body of the fifth lumbar vertebra The absence of this finding in the roentgenograms of some of the reported cases suggests an error in diagnosis

The prominent knuckle deformity is often due to the projection of the fifth lumbar spine and not to the upper border of the sacrum The suggested possibility of manipulative reduction of spondylolisthesis was not at all supported by the specimens and roentgenograms studied Moreover this deformity occurs in children of both sexes sometimes without symptoms and if it is due to trauma the injury must have occurred in early life as in the adult severe trauma to the lumbosacral region can occur without producing spondylolisthesis

cient procedure to free the artery from pressure As soon as the vessel is liberated it is seen to slide medially and downward along the declining cervical rib As this operation relieves only the pressure and does not affect the thrombosis it is of the greatest importance to operate before the latter has led to a serious degree of obstruction Therefore it is necessary to detect the slightest impairment of the circulation

Special care should be taken to prevent denudation of the vessel since the arterial wall may have been severed by the pressure Injury of the arterial branches must also be avoided as the branches may form part of the collateral circulation

The same methods may be applied to cases in which intermittent claudication is suspected a condition with symptoms closely resembling those of the disorder under discussion

H Earle Conwell M D

Brewster A H Lateral Structural Curvature of the Spine Treatment by Means of the Turnbuckle Jacket and Turnbuckle Shell *Arch Surg* 1929 xviii 142

This article reports upon eighty two cases of structural lateral curvature of the spine which were treated by means of a turnbuckle jacket or turnbuckle shell The results were excellent in twenty one good in twenty three fair in seventeen and poor in eight In thirteen cases there was no correction

The author concludes that no type of curve which is of long duration and associated with marked rotation and ankylosis can be affected in the least by the method described The curves most favorably affected are single curves to the right or left the apexes of which are below the eighth dorsal vertebra Double curves either to the right or the left with the apex of the upper curve not higher than the eighth dorsal vertebra can be decreased but are not nearly so amenable to treatment as single curves Triple curves do not lend themselves to treatment at all

The advantages of the treatment described are summarized as follows

1 The jacket or shell effects mobilization of the spine by stretching all of the tissues on the concave side and allows the stretched tissues on the convex side to regain some of their lost tone

2 The force applied spreads the ends of the arc and does not disregard the mechanical law that the keystone is the strongest part of an arc

3 The method permits gradual correction

4 It will produce an immediate correction of certain moderate curves

5 It tends to decrease rotation as is seen clinically and in the roentgenograms

6 It secures the means of obtaining an adjustable overcorrective retention jacket

7 It increases the height

8 The jacket is not uncomfortable and is not noticeable when the patient is dressed

H. Earle Conwell M D

Mueller W The Roentgenological Picture and Clinical Significance of the So Called Cartilaginous Nodules of the Vertebral Column (Das roentgenologische Bild und die klinische Bedeutung der so enannten Knorpelknoetchen der Wirbelsaeule) *Beitr z klin Chir* 1928 cxlv 191

The cartilaginous nodules described by Schmorl —invasions of the spongiosa of the vertebræ by intervertebral fibrocartilage—appear in the roentgenogram as clear semicircular rounded or irregular areas bordered by a very dense shadow In well made sagittal pictures of the vertebræ they can be recognized without difficulty Experience has shown that when the roentgenogram reveals the presence of multiple cartilaginous nodules spinal column symptoms are also present The cartilaginous nodules are not the cause of the symptoms but indicate that conditions in the vertebral body or the spongiosa are abnormal Valentin (Z)

Leibovici R Vertebral Osteomyelitis (Ostéomyélite vertébrale) *J de chir* 1928 xxxii 648

This article is a general consideration of vertebral osteomyelitis exclusive of specific forms such as the typhoid and the syphilitic

The first systematic study of the condition was made by Lannelongue in 1879 Since then about 121 cases have been reported Most of the studies have been limited to the disease as it occurs in children but recently Laborde has shown that it is not a rare condition in adults

In children vertebral osteomyelitis is most common between the ages of twelve and fifteen years and in adults between the ages of twenty five and thirty years In both it seems to be related to growth because at about the age of eighteen certain secondary points of ossification appear which persist for a long time

The causative organism is usually the staphylococcus aureus less often the staphylococcus albus and the streptococcus

Any portion of the vertebral column including the sacrum may be affected but in 53 per cent of the cases the lumbar vertebræ were the locations of the lesions The process begins in the arch more frequently than in the body of the vertebra Osteomyelitis of the body of a vertebra has a tendency to spread to the adjacent vertebræ the surrounding tissues and the costovertebral articulations Massive necrosis does not occur The sequestra are eliminated as small fragments

When a vertebral arch is involved the pus may extend into the vertebral canal or exteriorly in the form of a localized abscess The entire arch may be sequestrated Involvement of a vertebral arch is less serious in its effects than involvement of the body of the vertebra Certain posterior abscesses arise from necrosis of the vertebral body This event rare in Pott s disease is not uncommon in osteomyelitis

In over one third of the cases abscesses extend into the vertebral canal where they may diffuse in

depends on the amount of muscle tissue lost The results of bone resection tendon lengthening and myotomy have been unsatisfactory The best results are obtained by the use of elastic tension and gentle physical therapy with care to avoid tearing through fibrotic muscle which would lead to further contraction MICHAEL L MASON M D

Calot New Theories in the Pathology of the Hip Joint Based on Research Work of Recent Years (Ueber neuere Anschauungen in der Pathologie der Huefte auf Grund der Arbeiten der letzten Jahre) *Ztschr f orthop Chir* 1909 li 134

The author believes that nearly every patient over twenty years of age who is under treatment for arthritis deformans rheumatism or senile joint symptoms is suffering from congenital subluxation of the hip He is of the opinion that none of the conditions mentioned is capable of producing the findings noted in the roentgenogram or at autopsy These changes resemble on the whole the changes of congenital luxation of the hip differing only in degree The bearing surface of the acetabulum has a double appearance and its shape is that of half a lemon instead of that of half an orange The acetabular roof measures 5 or 6 cm and sometimes forms a heavy ridge The head of the femur is hypertrophic and deformed and projects beyond the normal vertical line extending through the anterior inferior iliac spine The neck is short and in anteversion and the angle of inclination is usually greater but sometimes smaller than normal The most striking sign however is the bipartite acetabulum

The author believes also that the disease picture of osteochondritis is congenital subluxation of the hip since it shows all of the roentgen and anatomical characteristics of that condition He presents numerous roentgenograms and photographs of anatomical preparations in support of this theory He states that in patients under twenty years of age the number of unrecognized cases is few because other forms of hip disease (tuberculosis) predominate in the young and because congenital subluxation of the hip first becomes clinically (functionally) recognizable after the twentieth year A number of cases of congenital subluxation previously diagnosed as osteochondritis are reported with roentgenograms ENGEL (7)

Tregubow S Perforation of the Acetabulum in Tuberculous Coxitis (Die Perforatio acetabuli bei der Coxitis tuberculosa) *Ztschr f orthop Chir* 1918 l 548

In treatises on Otto pelvis (protrusion of the acetabuli) not enough attention is given to tuberculosis as a cause In 268 resections for tuberculosis of the hip Menard found perforation of the floor of the acetabulum 105 times Protrusion is favored by the pointing of the tuberculous femoral head The tuberculous process may begin in the head or in the acetabulum Among 500 cases of tuberculous coxitis under constant observation the author found 12 cases with protrusion of the acetabulum recognizable in the roentgenogram and 2 cases with central luxation

As a rule perforation of the floor of the acetabulum may be recognized clinically from palpable infiltrates or abscesses in the iliac fossa but is not demonstrable in the roentgenogram Protrusion on the other hand can be readily recognized in the roentgen picture and may be felt on rectal examination Externally it is manifested by the approach of the great trochanter to the pelvis Only severe cases of tuberculous coxitis are associated with perforation of the floor of the acetabulum In central luxation due to tuberculosis attempts at correction are contra indicated SIEVERS (Z)

Barr J S Congenital Coxa Vara *Arch Surg* 1929 xviii 1929

The diagnosis of congenital coxa vara is based on clinical and roentgen evidence and is comparatively easily made In most cases there is a history of a painless unilateral or bilateral limp which was noted soon after the patient began to walk On examination the trochanter is found to be high and the leg short Abduction is limited and piston mobility is absent The roentgenogram shows a defect in ossification of the femoral neck resembling a fracture without displacement

The pathological process is not entirely clear but apparently there is a defect in ossification of the femoral neck with the inclusion of a disk of embryonic cartilage in normal bone

When the condition is untreated it runs a progressive course with increasing disability The early treatment should consist in immobilization of the hip in full abduction Later if marked deformity develops a plastic operation by Brackett s method seems to be the procedure of choice H EARLE CONWELL M D

Curtis G M Osteocartilaginous Loose Bodies in the Knee Joint *Surg Clin N Am* 1929 ix 415

The author reports three cases of osteocartilaginous loose bodies of the knee joint as examples of the three modes of formation of such bodies

The most common loose body in the knee arises from the lateral surface of the medial condyle of the femur In the author s case trauma was the important factor there was no evidence of infection

Other loose bodies in the knee are dislodged osteophytes The author reports the case of a man sixty nine years of age who was suffering from osteoarthritis and developed a palpable loose body in the knee which caused locking of the joint There was no history of trauma The body had become attached to the synovial membrane by a short pedicle

The rarest type of loose body is formed by proliferative changes of the synovial membrane (synovial osteochondromatosis) The author s case of this type was that of a woman fifty seven years of age in whom chronic arthritis developed following acute

The consolidation which follows the treatment of tuberculous caries of the lumbosacral region of the spine obliterates the lumbosacral angle and reduces the possibility of spondylolisthesis

Roentgenograms may not show any evidence of injury to the lumbosacral region until organization and calcification of the damaged structures have taken place when roentgenograms taken at interval will show an increase in the deformity

The symptoms and deformity following injury to the lumbosacral region in which osteo-arthritic changes have occurred may be more pronounced than would be expected from the degree of the trauma

Carcinoma and Paget's disease of the lumbosacral spine produce definite changes in the bone which can be recognized in the roentgenogram before any clinical deformity is apparent The pain associated with these conditions may be referred by the patient to a recent injury

Lumbosacral deformity will reveal itself to the examiner by a faulty posture or gait obliteration exaggeration or diminution of the normal antero posterior spinal curvature a lateral curvature the presence of a tumor and limitation of movements

The same type of deformity may have a widely different etiology and even after a thorough clinical and roentgen investigation the true nature of the condition may not be determined The clinical examination may indicate the nature of the lesion when the bone and joint changes are not sufficiently marked to show in a roentgenogram

Defects in the neural arch of the fifth lumbar vertebra were found in 6 per cent of the 3 000 cases studied In some patients the neural arches of the lumbosacral area were represented by small tubercles but in the majority there was only a split between the posterior extremities of both sides and one or both sides had a bulbous extremity showing that no union had occurred This non fusion of the laminæ often suggests fracture In fact several of the cases reviewed had previously been reported as fractures of the laminæ

Deformities due to pathological changes may be the result of acute invasion by staphylococci streptococci pneumococci gonococci or typhoid invasion chronic infections neoplasms and deficiency diseases such as rickets Paget's disease and osteomalacia ANTHONY F SAVA M D

Harbin M The Deposition of Calcium Salts in the Tendon of the Supraspinatus Muscle *Arch Surg* 1929 xviii 149

Harbin discusses a degenerative disease of the musculotendinous portion of the supraspinatus tendon which is associated with the deposition of calcium salts He reports five cases The condition may be associated with impregnation of a subacromial bursa by the same salts The cause has not been definitely established but bacterial or toxic inflammation and trauma have been suggested as factors In none of the five cases reported by Harbin could external injury be considered responsible In some of them the most probable cause seemed to be frequently repeated mild trauma to the tendon occurring as the result of impingement of the tendon against the inferior surface of the acromion.

Following a review of the anatomy and mechanics of the shoulder joint Harbin outlines the clinical course and treatment of the condition under discussion He states that when the bursa is affected a thorough exploration of the tendon for deposits of calcium salts should be made and both the bursa and the diseased tendinous portion should be excised

The good results of surgical treatment in cases uncomplicated by arthritis are emphasized

H EARLE CONWELL M D

Lewis D Ischæmic Paralysis *Am J Surg* 1929 vi 638

Ischæmic palsy or Volkmann's ischæmic contracture is probably more common than is generally believed It is primarily a myositis dependent upon acute venous stasis following a trauma most frequently a supracondylar fracture of the humerus The tough antecubital fascia plays an important rôle in confining the hæmatoma and preventing expansion Although tight bandaging and circular casts have been looked upon as the sole causes of the condition the statistics of Hildebrand and of Denucé show that only about 60 per cent of the cases have been treated with a cast

In dealing with an injury likely to be followed by ischæmic contracture it is important to be constantly on the lookout for signs of developing venous stasis Severe spontaneous pain radiating over the forearm especially if it is associated with tenseness and discoloration in the antecubital fossa is a danger signal The muscles are swollen and tense and the fingers rigid swollen and cyanotic Motion is finally lost

After development of the palsy the hand assumes a typical position usually quite distinct from that seen in combined median and ulnar nerve paralysis The wrist is extended or slightly flexed the metacarpophalangeal joints are extended and the interphalangeal joints are flexed The thumb may be rigidly adducted Extension of the wrist leads to flexion of the fingers while extension of the fingers leads to flexion of the wrist

The condition is more easily prevented than cured In cases of supracondylar fracture with marked displacement the use of a cast or splint is contraindicated and reduction in acute flexion should not be attempted Reduction can always be effected later Poor reduction with good function is preferable to good reduction with ischæmic contracture When ischæmic contracture threatens operative interference consisting in longitudinal incision through the antecubital fascia for relief of the tension is to be considered The author reports a case which was much benefited by this procedure When the contracture has developed the prognosis

sling The distal stump of the extensor tendon of the third finger was attached to the extensor tendons of the second and fourth fingers by fascial bands

On completion of the operation a plaster cast was applied with the thumb in a marked opposing position and the middle finger in hyperextension The cast was left on for two weeks At the end of that time a bandage was applied Three and a half weeks after the operation careful massage was begun

As the result of the intervention the thumb could be brought to the middle fingers in the opposing position after five months and the power in the grasp of the first and third fingers again became good In extension the action of the middle finger remained slightly defective probably because of a certain degree of relaxation of the tension in the fascial strips The power gained by the transplantation acts in a direction vertical to the surface of the hand ROSENBURG (Z)

Schede F Indications and Methods in the Treatment of Flat Foot (Indikationen und Methoden in der Behandlung der Fussenkung) *Jahresk f aerztl Fortbild* 1928 xix 22

Flat foot is not a local process it is always based on a constitutional weakness of the supporting tissues Faulty posture of the foot like other postural anomalies of the skeleton leads to faulty shape The most common factor in flat foot is a rachitic tendency particularly in young children General treatment and treatment to strengthen the muscles should be given early Correction and reshaping are best done by operation Forcible correction is contraindicated The postoperative treatment should include exercises such as skipping the rope and running During puberty the foot should be spared The patient should rest in the reclining position in the open air and overexertion should be prevented In the cases of adults the critical years are those near the age of forty

Poor posture of the trunk and of the foot are related Other factors in malposition of the foot are circulatory disturbances varices and arthritic changes in the ankle knee and hip Stimulation of the metabolism circulation and respiration by energetic muscular activity is a necessity for persons getting on in years and prolongs life Systematic exercises for the feet rope skipping and running are recommended Massage overcomes muscle stiffness and relieves pain Kneipp's method of pouring water over the legs alternate baths of hot and cold water Alpine sun treatment and measures to decrease the body weight may all be used In the cases of adults it is necessary to proceed very cautiously with redressment and operation Relief of pain and improvement of function can always be obtained by the use of supports and mechanical treatment The metatarsus must be held firmly in the hoe but the toes—particularly the fourth and fifth—must have room Calluses should be removed and hallux valgus operated upon

Flat foot following trauma joint inflammation, or paralysis requires special consideration

SCHMIDT (Z)

FRACTURES AND DISLOCATIONS

Bager B The Roentgenography of Diaphyseal Fractures of the Extremities (Einiges ueber die Roentgenaufnahme von Diaphysenfrakturen an den Extremitaeten) *Acta chirurg Scand* 1928 lxiv 384

The author describes a simple method for the determination from the roentgenogram of the position of a diaphyseal fracture Miniature models of the extremity are cut from a sheet of lead—antero posterior and lateral views—and attached to the edge of the film at the exposure By this means there is obtained on the developed film a miniature picture of the whole limb which facilitates the interpretation of the roentgenogram and the necessary correction of the position

McWhorter G L Fracture of the Atlas Vertebra Report of Three Cases One with Removal of the Posterior Arch for Neuralgia *J Bone & Joint Surg* 1929 xi 286

In the first of the three cases reported by the author there was a fracture of the posterior arch of the atlas The posterior arch was removed by open operation with relief of the symptoms

In the second case a fracture of the anterior and posterior arches was treated by immobilization in a plaster cast

In the third case there was a fracture of the posterior arch of the atlas the skull the tranverse process of the sixth cervical vertebra three ribs and a clavicle complicated by erysipelas of the face Death occurred seventeen days after the accident from toxæmia due to the erysipelas

ELVEN J BERKHEISER M D

Clarke H O Traumatic Dislocation of the Hip Joint in a Child *Brit J Surg* 1929 xvi 690

The author's case was that of a girl three years of age who had fallen backward while being carried on her brother's shoulders Examination revealed a dorsal dislocation of the head of the left femur The dislocation was reduced and the leg immobilized in full extension and slight abduction under general anæsthesia

The possibility that the dislocation might have been congenital was ruled out by the roentgenogram which showed the development of the acetabulum to be equal to that on the right side

ANTHONY F SAVA M D

Le Fort R Simple Pathological Luxations of the Hip Joint (Luxations pathologiques simples de la hanche) *Rev d orthop* 1928 xxxv 514

The term simple pathological luxation borrowed from Malgaigne does not include traumatic and congenital luxations or those consecutive to bony deformity or destruction Simple dislocations

articular rheumatism at the age of fifteen years On roentgen examination multiple osteochondromata were discoverd Nine of the osteochondromata were attached to the synovial membrane and seven were free in the joint The osteochondromata were surgically removed along with the membrane in which there were additional bodies In this case the condition was probably due to infection

W P BLOUNT M D

Ollerenshaw R The Development of Cysts in Connection with the Semilunar Cartilages *Brit J Surg* 1929 xvi 555

In the author's series of twenty-one cases of cysts of the semilunar cartilages the internal cartilage was involved in four and the external cartilage in seventeen

The pathology of cysts of the semilunar cartilages has received considerable attention A number of observers have challenged the author's statement that the cysts are lined by endothelial cells but others have corroborated his findings Although the lining of endothelium has not been demonstrated in all of his specimens Ollerenshaw has no doubt that it is definitely present in most specimens Goldzieher in describing the specimen obtained from a case reported by Kleinberg stated The larger cysts which can be seen grossly are formed of fibrous tissue Their inner surface is lined by a layer of flat cells resembling endothelial cells and probably arising from the lymph vessels The nuclei are rod shaped and the cytoplasm is scanty Some of these cysts are separated from each other by septa which consist of a few connective tissue fibers covered on both sides by the endothelium described above Bristow who reported eight cases found in some of his specimens what appeared to be an endothelial lining but refused to class the lining cells as definitely endothelial

The condition is without doubt a primary lesion of the cartilage In nearly all cases there is a more or less definite history of injury The author attributes the cysts to the gradual enlargement of pre existing small spaces in the cartilage following injury He calls attention to the fact that in the sectioning of tissue containing material of such differing consistency as fibrocartilage and the soft gelatinous content of the cystic spaces the lining cells are easily detached ANTHONY F SAVA M D

Schuetz H Typical Disease of the Sesamoid Bones of the First Metatarsal Bone (Beitrag zur Frage der typischen Erkrankung der Sesambeine des I Metatarsalknochens) *Beitr z klin Chir* 1928 cxlv 65

On the basis of a case observed by himself the author recognizes the condition called by Mueller 'typical disease of the sesamoid bones of the first metatarsal bone' as a form of juvenile necrotic osteopathy rather than as a disease entity In contrast to Mueller he found necroses not only in the bone trabeculæ but also in the marrow

Up to the present time the condition has been found only in divided sesamoids The division probably plays a still unknown part in its development As the disease causes great inconvenience and is not benefited by conservative treatment Schuetz recommends removal of the sesamoids which gives good results

All of the cases reported to date have been those of middle aged women who were obliged by their occupations to do considerable standing and walking

BANCE (Z)

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Rey J Palliative Operation for Serratus Paralysis (Die palliative Operation der Serratuslaehmung *Zisch f orthop Chir* 1928 l 729

Serratus paralysis is most common in young persons carriers of heavy weights shoemakers and fencers and is due apparently to a traumatic neuritis of the long thoracic nerve It is characterized clinically by a wing like position of the scapula. The results of conservative treatment by exercise electrotherapy plaster casts and braces are poor In bilateral paralysis von Eiselsberg's method of fastening the shoulder blades together has given good results In unilateral paralysis—the result of muscular dystrophy for example—the results of operative procedures have been unsatisfactory except in a case treated by Willich who fixed the shoulder blade to the spinal column and the ninth rib with plaited strands of silk

The author has used a method similar to that employed by Willich perforating the medial border of the scapula and fastening it with wire to the third fourth or fifth ribs This method does not decrease function One and a half years later the wire suture was removed without affecting the mobility of the arm Apparently the formation of the scar in the muscle substituted for the removed wire

DENCKER (Z)

Jahn A Active Substitution in Opposition Paralysis of the Thumb (Aktiver Ersatz bei Oppositionslaehmung des Daumens) *Zisch f orth p Chir* 1929 li 100

In the case of a woman twenty two years of age complicated infantile paralysis resulted in combined partial paralysis of the median and ulnar nerves At operation to restore the opposition position of the thumb the extensor muscle of the third finger was transferred to the volar side of the metacarpal bone of the first finger The extensor tendon of the middle finger was divided at a point somewhat distal to the basal joint and brought through a canal bored to the volar side of the hand in the direction of the distal half of the first metacarpal bone This proximal tendon stump was then sutured into a fascial sling passed around the first metacarpal bone The extensors and long flexor muscle of the thumb remained within the fascial

Evidence of incipient or established ununiting is an indication for refixation in plaster and repetition of the treatment When gross separation has occurred in the cases of adults operation should be done Freshening and accurate apposition of the fractured surfaces are more important than the insertion of a peg or nail W P Blount M D

McFarland B L Congenital Dislocation of the Knee *J Bone & Joint Surg* 1929 xi 281

Congenital dislocation of the knee associated with multiple congenital deformities is due to a primary embryonic defect and requires open operation It is not benefited by conservative treatment

Congenital dislocation of the knee alone is due to malposition of the fetus in the uterus and responds to manipulation aided possibly by subcutaneous tenotomy Elven J Berkheiser M D

Steuer H S Fractures of the Tibia Involving the Knee *Ann Surg* 1929 lxxxix 585

The author presents a study of 66 fractures of the tibia which were found in 1 300 skeletons Thirty two of the fractures occurred in the lower third of the bone Of 18 involving the shaft but not entering the knee joint 13 occurred in the middle third and 5 in the upper third of the bone Sixteen occurred primarily in the upper articular surface itself The last group are discussed in detail In 50 per cent the lateral tuberosity alone was involved In 25 per cent both tuberosities were injured In 25 per cent the medial tuberosities and intercondyloid eminence were involved

Tibial fractures involving the knee are caused more frequently by direct violence than by indirect violence They increase in frequency up to the age of sixty years Most of those studied by the author occurred between the ages of forty and sixty years After the age of sixty years their incidence decreases probably because older persons are less able to withstand the accident and its complications

The author distinguishes two main types In the first either one or both condyles are involved the injury and disorganization of the underlying tuberosity always results in deformity and there is rarely a fracture of any other bone In the second type the injury is less extensive results in no recognizable deformity and may be secondary to a more severe injury elsewhere in the body The physical features of these articular fractures are described Such fractures have been diagnosed and treated surgically as osteitis fibrosa bone cyst and tuberculosis For anatomical reasons the first group is further divided into three subgroups In the first there is a shave of the upper end of the tibia which more or less cracks the articular surface In the second there is a comminuted impacted fracture of the tuberosity with a Colles like deformity In the third there is a depressed fracture of the condyle with consequent disorganization of the substance of the tuberosity Examples of each of these subgroups are described George C Hensel M D

are not accompanied by osseous lesions capable of favoring displacement of the articular surfaces They may occur as the result of insignificant trauma and even when the extremity is in a cast or under traction Most frequently they occur spontaneously The author does not discuss their clinical features Pathologically they may be classified into two groups—simple luxations of coxalgia and simple luxations due to other causes

The luxations accompanying coxalgia are the most common A typical case reported by Kirmisson was that of a child nine years of age in good health who complained of slight lameness in the hip and was suddenly seized with violent pain in the hip during the night The surgeon who was called found an obvious obturator dislocation which was easily reduced Reduction was followed by immediate relief of the pain In the morning the dislocation recurred and was again reduced The limb was then placed in a cast In the course of a few months a severe coxalgia developed After suppuration healing occurred with ankylosis

In the few cases in which autopsy has been performed soon after the dislocation the acetabulum has been found filled by inflammatory products

In a number of cases roentgen ray examination has served to confirm the integrity of the head of the femur and acetabulum a condition essential to the diagnosis and has been of aid also in following the subsequent evolution of the tuberculous lesions

Clinical studies have demonstrated that the coxalgias producing sudden dislocation are ordinarily not of the severe variety and that the evolution of the coxalgia is not greatly influenced by the luxation whether the latter is reduced or not

Simple non coxalgic luxations include those which develop in the course of arthritis accompanying an infectious disease and those provoked by acute osteomyelitis

In 1899 Bruns and Hansell described simple luxations in osteomyelitis as distention luxations and distinguished them from the pseudoluxations associated with destruction of the joint surfaces Most of the reported cases are examples of pseudoluxation

The predisposing causes of simple luxation are destruction of the round ligament a certain degree of relaxation of the capsule distention and tearing of the capsule and youth In the young the acetabulum is shallow and the centers of ossification about the rim are not united

The direct causes of simple luxation are granulations in the acetabulum directly displacing the head of the femur and effusions relaxing the joint capsule and counterbalancing the atmospheric pressure which is of importance in maintaining the head of the femur in place The luxation is favored also by atrophy of the muscles of the hip joint particularly the glutei and the adoption of vicious attitudes Rarely is there a displacement of the three centers of ossification forming the rim of the acetabulum

It is evident that at the time of the luxation the bones are always more or less diseased

The methods of treatment are manipulation continuous traction and open operation

In the presence of coxalgia reduction by manipulation must always be performed very gently because of the danger of disseminating the tuberculous infection

Continuous traction is in general a most serviceable treatment as regards both the dislocation and the pathological process

The surgical procedure indicated varies according to whether it is to be directed toward reduction of the luxation or treatment of the acute arthritis It depends also on the duration of the luxation and the presence or absence of mobility

The article is concluded with the detailed histories of fourteen cases and an extensive bibliography ALBERT F DEGAST M D

Russell R H A Tape Measure Study *J Coll of Surg Australasia* 1929 i, 363

In fractures of the femur equal traction must be applied to both lower extremities if the differences in length are to be determined accurately with a tape measure Because of the relationship of the pelvis to the femora traction on one extremity produces a skeletal shortening of that extremity with lengthening of the other extremity Moderate traction is sufficient to overcome muscular contraction Postural skeletal shortening must be overcome by equalizing the position of the femora

W P BLOUNT M D

Speed K Ununiting Fracture of the Neck of the Femur *Surg Clin N Am* 1929 ix 273

Fractures of the neck of the femur which are apparently healed but are associated with pain shortening and coxa vara and possibly with separation at the fracture line may be called ununiting fractures Reversal of the process of healing may be due to insufficient calcification early mobilization with destruction of the newly formed capillaries or too early weight bearing leading to the resorption of callus The patient's weight and the condition of endocrine and vascular systems are important variables Repair is not completed with callus formation but depends on rebuilding of the finer bone structures This process must be favored by immobilization proper nutrition and the stimulation of use

The ununiting of fractures of the neck of the femur and of slipped epiphyses is best prevented by accurate reduction by Whitman's method followed by immobilization in a double plaster spica for from sixteen to twenty weeks Sitting and standing should be preceded by a week of bed rest with massage and active motion Crutches may then be used with a walking caliper or a lift on the opposite shoe to protect the new callus These safeguards should not be abandoned until roentgenography shows dense union with reformation of the bone trabeculæ

LEUKÆMIA

In leukæmia the blood presents a large number of abnormal cells The type of the cells rather than their number is the basis of classification of the disease In myelogenous leukæmia the myelocytes make up from 15 to 70 per cent of the leucocytes whereas in acute lymphatic leukæmia the large immature lymphocytes are the predominating cells and in the chronic type of lymphatic leukæmia the small lymphocytes are most abundant In the differentiation of leukæmia from other enlargements of the lymph nodes the age of the patient is of little if any value In the cases reviewed by the author the onset of the condition ranged from the tenth to the seventieth year of age The average age of onset was forty years

The enlargement of the nodes is not so great as in Hodgkin s disease The nodes are fused by an inflammatory reaction and there is a diffuse growth of lymphoid cells

Myelogenous leukæmia is gradual in its onset The first symptoms are a progressive loss of weight and strength or abdominal pain from enlargement of the spleen These are followed by enlargement of the nodes and marked anæmia Occasionally there is hæmorrhage from the nose gums or kidneys The condition may also run an acute course with extensive hæmorrhages In the cases reviewed by the author the average duration of the condition was twenty four months but one patient lived four years The leucocyte count varied from 128 000 to 848 000 with from 12 to 61 per cent of myelocytes The blood count gives little information regarding the prognosis except that a high count seems to be an indication of chronicity The older the patient the more chronic the course

The course of acute lymphatic leukæmia is extremely variable Usually the symptoms are intense from the beginning As a rule they begin with fever weakness prostration and hæmorrhages The enlargement of the original chain of nodes spreads rapidly frequently to all lymphatic tissue The spleen enlarges but not to the size seen in myelogenous leukæmia Ulceration with hæmorrhage occurs in the mouth and throughout the gastro intestinal tract Retinal hæmorrhage is frequent The leucocytes are increased and there is marked anæmia The large undifferentiated lymphocytes make up from 60 to 99 per cent of the white cells Both the number and the form of the cells may change during the course of the disease

In chronic lymphatic leukæmia the symptoms are less severe the course of the disease longer and the lymphocytes circulating in the blood smaller than in the acute type The onset of the condition is gradual and the enlarged painless nodes are usually the first evidence of the condition Usually more than one chain of lymph nodes are involved The liver and spleen gradually enlarge Embolic lymphocytic infiltrations appear in various parts of the body The nodes can usually be reduced in size by roentgen treatments There is a moderate progressive anæmia Three of four patients whose cases are reviewed by the author were alive from one to four years after the onset of the condition The fourth died three months after the onset the condition being complicated by pregnancy

The prognosis in all types of leukæmia is unfavorable but in the chronic forms life may be prolonged for several years The course of the condition is definitely influenced by roentgen therapy In the cases of myelogenous leukæmia reviewed by the author the spleen long bones and enlarged nodes were X rayed In the cases of lymphatic leukæmia the nodes were irradiated The chronic cases showed definite improvement In the acute cases the results were unfavorable as a drop in the leucocyte count was accompanied by increased anæmia In acute cases roentgen therapy should be carefully controlled

Improvement is shown by a gain in weight and strength increased appetite and reduction in the size of the spleen The return of symptoms can be checked by further treatment until resistance to irradiation is finally developed The treatment should be controlled by blood counts Care should be taken to avoid too great a decrease in the number of white cells The best response is obtained with a reduction to about one fourth the maximum number of cells

HODGKIN S DISEASE

In Hodgkin s disease the enlarged nodes may appear fused but the capsules are intact Cross section of the nodes reveals a semi translucent surface with small areas of necrosis Later small hæmorrhages appear and the color becomes darker Fibrosis increases during the course of the disease The microscopic picture shows varying numbers of lymphocytes endothelial cell eosinophils and endothelial giant cells The eosinophils are of importance in the diagnosis Biopsy is essential

The first symptom of Hodgkin's disease is usually the enlargement of a chain of nodes Commonly these are the cervicals but inguinal or axillary nodes may be involved first or dyspnœa from occlusion of the bronchi by enlarged mediastinal nodes may be noted first Itching or eczema of the skin progressive weakness extension of the enlargement to other nodes and splenic enlargement may occur The blood shows secondary anæmia The white count is normal except for a slight eosinophilia or lymphocytosis Deaths results from cachexia pneumonia or pressure of the nodes on vital organs

With the exception of one case in which the condition occurred at the age of nine years the average age in the cases reviewed was fifty years

The clinical types of Hodgkin s disease has been classified clinically by Ewing as (1) the acute (2) the chronic generalized (3) the splenic (4) the gastro intestinal (5) the mediastinal and (6) the abdominal types (7) Mikulicz s disease (8) bone marrow lesions, and (9) dermal lesions

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Homans J and Zollinger R Experimental Thrombophlebitis and Lymphatic Obstruction of the Lower Limb A Preliminary Report *Arch Surg* 1929 xvii 992

The œdema associated with a deep phlebitis in man is due not to venous obstruction *per se* but to interference with the return of the lymph from the leg *Following the development of pain in the calf* of the leg which marks the onset of deep thrombophlebitis the first physical sign is not an engorgement of the superficial veins but œdema The leg becomes white not blue Indeed it is difficult to cause venous stasis in the leg If the femoral vein *in man is tied the blueness which follows disappears* overnight In the dog simultaneous ligation of the common iliac and femoral veins causes no recognizable change

All of the evidence indicates that the thrombosis of the deep vein plays an indirect rôle in the causation *of œdema of the leg This indirect effect is* brought about by a periphlebitic reaction presumably through inflammatory involvement of the trunk line lymphatics Moreover while thrombosis of the femoral vein distal to the entrance of the great saphenous vein might conceivably involve a *sufficient number of lymphatic trunks to cause* noticeable swelling in the calf it is clear that to bring about œdema of the entire leg the thrombophlebitis must lie in the external or even in the common iliac vein

Experimentally it appears that it is practicable to cause lymph stasis in the hind leg of a dog by an appropriate injury to the principal vein that a portion of the common iliac vein should be included in the traumatic process that the injury to the vein need not be of great violence to cause a temporary lymph stasis but must be of considerable violence to cause a permanent lymph stasis and that in the dog the use of non suppurative bacteria will cause chronic lymph stasis

The experiments already performed seem to indicate that the cause of phlegmasia alba dolens is a lymphatic obstruction due to the inflammatory reaction around an area of *thrombophlebitis* and that the basic lesion is always in the common or external iliac vein however far it may extend peripherally

SAMUEL KAHN M D

Melchior E Sarcoma of the Inferior Vena Cava (Sarkom der Vena cava inferior) *Deutsche Zschr f Chir* 1928 ccxiii 125

In the case of a man twenty four years of age the author removed a sarcoma of the inferior vena cava by resecting a portion of the vessel about 12 cm in length Histological examination showed the neoplasm to be a fibrosarcoma rich in cells which had evidently been present for several years and had grown very slowly At first the patient had experienced only radiating pains but later he complained of vague gastric disturbances in addition

The tumor had completely obstructed the inferior vena cava without causing clinical signs of interference with the blood stream Death occurred seventeen days after the operation from gangrene of the lung following pneumonia The author attributes the absence of circulatory disturbances following the extensive resection to the collateral circulation which had been established previously as the result of the obstruction of the vessel DUSCHL (Z)

BLOOD TRANSFUSION

Warburg E J and Jørgensen S Psychoses and Neurasthenia Associated with Achylia Gastrica and Megalocytosis and the Relation Between *This Syndrome and Pernicious Anæmia* II Neurasthenia. Remarks on the Diagnostic Value of Color and Volume Indices *Acta med Scand* 1929 lxx 193

The authors conclude that there is a chronic pathological condition associated with achylia gastrica *which explains a great many* cases of neurasthenia and some cases of early psychosis and that these mental disorders are often associated with mild spinal cord symptoms glossitis and megalocytosis

Pernicious anæmia represents a rare and late stage in this condition but not infrequently a mild anæmia may be observed at an early stage

Neurasthenia is characterized particularly by extreme fatigue and pronounced mental irritability whereas the psychoses are frequently conditions of imbecility going on to amentia The acute hallucinosis is especially pathognomonic In some cases Korssakow s psychosis and syndromes resembling general paresis are noted

Improvement of the condition can be expected in any stage of the disease from treatment with large doses of hydrochloric acid according to Bie s method *and the liver diet suggested by Minot* and Murphy

LYMPH GLANDS AND LYMPHATIC VESSELS

Elkin D C Primary Neoplasms of the Lymph Nodes A Clinical Study of Forty One Cases *Arch Surg* 1929 xvii 53

The neoplastic conditions of lymphoid tissue considered by the author are lymphatic and myelogenous leukæmia Hodgkin s disease lymphosarcoma and endothelioma

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Cutler E C The Art of Surgery *Arch Surg* 1929 x III 1190

Surgery began as an art By art is meant the skillful application of knowledge in effecting a desired result—a matter of craftsmanship as opposed to science The term connotes the use of the hands The proper use of the hands in the skillful performance of operations is still the major problem in surgery

Shortly after the time of Hippocrates when all branches of the healing art were happily unified surgery came to be looked upon largely as a menial task involving simple craftsmanship The medicmer considered himself too much a scholar to humble himself with practical remedial measures such as blood letting or the care of wounds and fractures These procedures were relegated to the barbers who used their hands and possessed cutting instruments Thus in a sense armamentarium played a part in the creation of surgery the first medical specialty

Practice makes for perfection and as the barbers practiced so they learned while their scholarly confreres were lost in fruitless speculation and scholastic subtleties The medicmers became philosophers and turned away from experimentation and the study of the body They were forced into that narrow conservatism and that intellectual trap which considers historical knowledge as wisdom and inhibits observation and search for the truth The barber surgeons gradually began to unravel the mysteries of the body and their development culminated in the great figures of Pare and Hunter As is always true practice brought forth the art and practice of the art begat science

In modern times surgery practiced by the hands but without a knowledge of anatomy physiology and bacteriology would not be tolerated Therefore the surgeon must keep abreast of the march of medical science and in fact must play a rôle therein himself

A problem of great importance in the art of surgery is that of hæmostasis The fear of hæmorrhage is the chief force withholding major surgical procedures quacks and charlatans Halstead's painstaking devotion to hæmostasis to asepsis to the delicate handling of tissue and to the artistic finish to his handicraft were of the greatest value to surgery Hæmostasis requires great delicacy of touch dexterity and manual perfection Great dexterity alone however is insufficient it must be backed by a full scientific appreciation of the task in hand Introducing a large number of forceps into a wound hurriedly is not true surgical craftsmanship

The second principle in the art of surgery is the induction of anæsthesia The anæsthetic must be adapted to the patient and must be given properly Surgeons should know the optimum alveolar tension of the anæsthetic gas for anæsthesia Craftsmanship is of importance also in the induction of local anæsthesia—spinal conduction and infiltrative

The third principle of surgery is asepsis The art of surgery is in no way better expressed than in the control of sepsis HOWARD A MCKNIGHT M D

Koontz A R Experimental Results in the Use of Dead Fascia Grafts for the Repair of Defects in the Hollow Viscera *South M J* 1929 xxii 417

Koontz has used ox fascia lata preserved in 70 per cent alcohol with successful results in the repair of defects in the stomach bladder and intestine and in the reinforcement of suture lines in anastomosis of the intestines Digestion of the graft in the stomach was prevented by giving bismuth subnitrate by mouth

The dead cells of the graft are carried away by the wandering cells of the host fibroblasts from the latter unite with the framework of the graft and a new vascular network is formed The fibers of the graft do not act as a foreign body cause phagocytosis or show a tendency to be absorbed because they are not altered either chemically or physically by their preservation in alcohol

JACOB M MORA M D

Martini The Increasing Frequency of Thrombosis and Fatal Pulmonary Embolism (Ueber die Zunahme der Thrombosen und toedlichen Lungenembolien) *Arch klin Chir* 1928 cliii 493

The amazing increase in fatal postoperative pulmonary embolism in the year 1927 and the first half of 1928 which occurred in many clinics was noted also in the Municipal Hospital of Chemnitz

Of 29 190 cases treated surgically in that institution in the period from 1917 to 1928 fatal pulmonary embolism occurred in 66 (0 22 per cent) and of 22 348 cases not operated upon it occurred in 24 (0 10 per cent) In 3 193 autopsies pulmonary embolism was found to have been the cause of death in 90 cases (0 81 per cent) In 66 (73 3 per cent) of the latter an operation had been performed Of the 66 operations 17 were done under general anæsthesia 23 under spinal anæsthesia and 26 under local anæsthesia Death occurred in 14 cases between the first and fifth day after the operation in 25 cases between the sixth and tenth day in 17 cases between the eleventh and fifteenth day in 5 cases between the sixteenth and twentieth day and in 5 cases between the twenty first and thirty-eighth day

In seven cases reviewed by the author the duration of life after the onset of the condition varied from four to thirty seven months and averaged nineteen months One patient is still living after forty months The involved nodes were treated with the roentgen ray Temporary regression in the size of the nodes and improvement in the general condition were noted in every case In acute cases the duration of life was only a few months in spite of regression of the nodes following treatment

LYMPHOSARCOMA

Lymphosarcoma is a true malignant neoplasm arising in lymphatic tissue Extensions occur through the lymphatics but true metastases may also develop Acute cases are characterized by rapid invasion leading to necrosis ulceration and early death In chronic cases enlarged nodes may be the only complaint for several years

The nodes can be outlined but are fused by capsular invasion or rarely, by inflammatory reaction They are soft and except in long standing cases they bulge on bisection because of the absence of fibrosis There is a diffuse growth of small or large lymphoid cells Multinucleated cells may be present but there are no giant cells Mitotic figures are frequent

The clinical types of lymphosarcoma are grouped according to their point of origin as follow (1) cervical (2) mediastinal (3) gastro intestinal and (4) pharyngeal

Thirteen of the fifteen cases reviewed by the author were those of males The average age was thirty three years In eleven cases the cervical nodes were involved first Fever was frequently present The leucocyte count ranged from 12 000 to 20 000 The increase was due mainly to neutrophils A moderate anæmia was present in most instances but cachexia usually developed late

The duration of the disease is extremely variable The patient appears sick only in the acute or terminal stage and life may be prolonged for many years Roentgen therapy causes a rapid regression in the size of the nodes and improvement in the general condition The rapidity of the response is of diagnostic value On recurrence the growths respond less favorably to irradiation and finally become resistant

ENDOTHELIOMA

There are two clinical types of endotheliomata—the systemic and the localized In two cases of the systemic type which are reviewed by the author there was involvement of many nodes with metastasis to the lungs and the condition was rapidly fatal The one patient with the localized type whose case is cited was still alive after five years

In this condition the involved node shows a uniform firm enlargement and in the late stages becomes hard In recurring tumors capsular invasion sometimes occurs Cross section reveals an opaque surface with scattered areas of necrosis There are large diffuse sheets of large round cells with large vesicular hyperchromatic nuclei and small usually multiple nucleoli The differentiation of primary endotheliomata from metastatic epithelial tumors requires a study of the individual characters of the cells The epithelial cell shows a slightly granular cytoplasm a well marked nucleus and a rather large acidophil nucleolus

Clinically there is little to differentiate endothelioma from other malignant diseases of the lymph nodes It may occur at any age The systemic form is usually regarded as Hodgkin's disease on account of its acute manifestations The blood count is normal and there is no eosinophilia The localized form usually occurs in robust young males The chronic course simulates that of lymphosarcoma Because of the similarity in the response of these two conditions to roentgen therapy they can be differentiated only by microscopic section

GENERAL COMMENT

In the treatment of neoplastic growths of lymphoid tissue irradiation is preferable to surgery Although not curative it causes definite retardation of the growths and improvement in the general condition This is true particularly in lymphosarcoma and certain forms of endothelioma In Hodgkin's disease and leukæmia prolongation of life is probably not great but there is usually improvement in the subjective symptoms Only in acute leukæmia does irradiation appear to be harmful

Accurate diagnosis is essential to treatment and prognosis Except in leukæmia biopsy is necessary in the diagnosis Careful removal of tissue apparently does not affect the course of the disease

In leukæmia prodromal signs of weakness loss of weight and anæmia often appear before enlargement of the nodes A blood count establishes the diagnosis In Hodgkin's disease and lymphosarcoma enlargement of the nodes is the first sign In Hodgkin's disease the patient appears sick an eosinophilia is usually present the response to irradiation is slow and recurrence is rapid In lymphosarcoma the patient is robust and healthy a leucocytosis without eosinophilia is present the response to irradiation is rapid and recurrence is late

E S PLATT M D

changes in the weather and the frequent spontaneous extrusion of small sequestra after traumatic osteomyelitis are to be regarded with particular suspicion Like many other surgeons the author has occasionally discovered the presence of quiescent infection in the operations preliminary to arthroplasty As is demonstrated by civil practice there are many septic processes in which after years there is still an active focus or a focus that may at any time become activated Following osteomyelitis compound fractures in the vicinity of joints and joint fractures the danger of latent infection persists for a long time sometimes even for life However experience shows that the infection in compound fractures often becomes quiescent surprisingly rapidly after bony union and that metastatic joint suppurations followed by bony ankylosis are less dangerous than those followed by fibrous ankylosis The only exception is the ankylosed gonorrhœal joint in which the infection remains active for a long time

Of importance in the diagnosis of latent infection is the previous history particularly as regards the nature of the former infection the time of the injury and the appearance of signs of inflammation at the site of the old infection or disease Local and general manifestations in the nature of temperature elevations in the region of the joint pathological changes in the soft parts such as pallor of the skin œdema immobility of the skin infiltration cicatrices and pain on pressure enlargement and tenderness of the regional lymph glands subfebrile temperature elevations a tendency toward fatigue and depression headache exaggerated perspiration pain in other joints or in muscles and general malaise are of significance provided they are in direct relation to changes in the ankylosed joint Comparison of the involved part with the corresponding part of the sound side and repeated examination under different conditions (during use of the joint following stimulating irradiation and after the injection of a foreign protein) are necessary When the joint is surrounded by marked swelling of the soft tissues and determinations of the skin temperature are without result valuable assistance may be obtained from deep thermometry by the Zondek method

Direct evidences of the focus present are recognized in the roentgenological demonstration of foreign bodies sequestra and granulomata Granulomata are more readily detected when there is atrophy of the spongiosa than when the bone is hard They are revealed also by tests for local inflammation (elevation of the skin temperature local leucocytosis) the presence of a general inflammatory reaction of the suspected focus (blood picture rate of sedimentation of the blood cells agglutination tests) stimulating methods to bring out a local or general focal reaction (massage increased medicomechanical movement of joints with fibrous ankylosis the removal of supporting splints and the injection of from 200 to 300 c cm of physiological salt solution around the joint according to Capelle s method) and to a less extent by thermic or chemical irritation

From twelve to twenty four hours after X ray treatment with from one fourth to one third the erythema dose (Fruend) the author has noted in quiescent infections an increase in the body temperature and local redness and œdema This method of stimulation gave positive results in 20 per cent of ninety cases In material removed for histological and bacteriological examination (excision of scars bone puncture) positive findings constitute a definite contra indication to a reconstructive operation and demand that measures be taken to render the focus innocuous The reaction of the organism to operative trauma may be determined and material obtained for examination also by exploratory operation

For the treatment of latent infections before operation the author considers medicaments of little value and recommends the use of sera and vaccines and hyperæmia particularly the hyperæmia obtained by diathermy and deep X ray irradiation Control of all methods of conservative treatment of latent infection by very careful measurements of the skin temperature and comparative tests of the reaction to irritation before during and after the conclusion of the treatment is necessary for judging the efficacy of such methods If foci are morphologically recognizable they should be removed as radically as possible before operation is performed on the joint If findings suggestive of latent infection are first noted during an operation of the skeletal system the soft tissue foci should be painted immediately with tincture of iodine and excised as completely as possible Bone foci which are much more serious should be cauterized with the actual cautery or concentrated carbolic acid and then treated with alcohol Irrigation of the operative wound with tincture of iodine or Pregl s solution is also to be considered The interposition of tissue and the introduction of foreign bodies must be avoided and care must be taken to obtain complete hæmostasis When obvious foci of infection such as sequestra and abscesses are found it is advisable to stop the operation and leave the wound wide open or close it only partially SELLER (Z)

ANÆSTHESIA

Slot G Deaths under Anæsthetics with Special Relation to Their Pathology *Proc Roy Soc Med* Lond 1929 xxii 901

Deaths from anæsthesia are classified as due to (1) status lymphaticus (2) gross accident (3) myocarditis or arteriosclerosis (4) gross disease such as intestinal obstruction and (5) asphyxia caused by spinal anæsthesia

In status lymphaticus autopsy reveals enlargement of the thymus hyperplasia of the glandular tissue at the base of the tongue hypertrophy of the tonsils and enlargement of the spleen and the

In 12 cases the operation was performed on the stomach in 3 on the colon in 4 on the bile tract in 6 on the kidneys bladder and prostate in 4 for appendicitis and peritonitis in 4 for hernia in 8 for intestinal strangulation in 7 for disease of the female genital organs in 8 for sepsis phlegmons etc in 2 for empyema and in 8 for other conditions

The original thrombus was found in 79 cases In addition to the 79 thromboses which led to the formation of fatal emboli large thrombi which did *not cause embolism were found in 87 autopsies*

Grouping of the cases according to years showed a rapid increase in the number in the year 1927 to 1928 A review of the histories gave no clue as to the cause of the increase Early getting up was frequently permitted

Of 8 399 deaths occurring in the medical division of the hospital during the same period of time 156 (3 per cent) were due to pulmonary embolism In this division also there was a gradual increase in the condition toward 1928 No evidence could be found that intravenous medication was an important factor in the increase BERGEMANN (Z)

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Koch S L Felons Acute Lymphangitis and Tendon Sheath Infections Differential Diagnosis and Treatment *J Am M Ass* 1929 xcii 1171

Koch describes the characteristic symptoms of felon and advises that the infected finger be opened at the earliest possible moment under general anæsthesia He states that to drain such an infection an incision at one side of the finger suffices if it is long enough and if the knife is made to sweep across the palmar surface so as to divide the fibrous septa that pass vertically from the skin to the periosteum The incision should not extend upward far enough to permit invasion of the sheath of the deep flexor tendon at its insertion on the base of the distal phalanx *Koch does not approve of the horseshoe* shaped incision which is so frequently advocated as it is unduly long in healing and leaves a painful scar over the finger tip and an anæsthetic area distal to the ear If the condition is recognized early there should be no necessity for curettage or excision of the bone After the incision has been made a small wedge of petrolatum gauze should be packed into the drainage wound in such a way as to hold the wound edges apart without preventing the escape of pus The finger should then be kept enveloped in a hot wet dressing until the infection is under control

Acute Lymphangitis should be treated by rest in bed and the application of a hot wet dressing from the finger tips to the axilla Active surgical treatment is contra indicated To cut into the finger before definite localization of the *infectious* process has occurred is to court almost certain disaster If conservative measures do not bring about an arrest of the infectious process surgical intervention will only hasten a fatal outcome

The characteristic signs of tendon sheath infections are pain and swelling of the entire finger with the swelling more pronounced in the dorsum of the finger and tenderness over the anatomical position of the tendon sheath The patient holds the finger in a semiflexed position and any attempt to flex it causes severe pain Successful treatment depends upon a correct diagnosis early in the course of the *infection* EMIL C ROSITSKEY, M D

Payr E The Recognition and Treatment of Latent Infection with Special Consideration of the Skeleton and Joint Stiffenings (Lehre Erkennung und Behandlung der ruhenden Infektion Mit besonderer Beruecksichtigung des Skelettes und der Gelenkversteifungen) *Arch f klin Chir* 1928 clxi 515

After injuries of joints or in the proximity of joints complete joint stiffening may develop gradually in the entire absence of recognizable evidence of inflammatory processes Such stiffening must be attributed to an infectious process with a very insidious course After long-continued suppurations sequestration of bone or soft tissues and severe physical exhaustion the danger of the lighting up of a latent infection by renewed operative trauma is especially great In the author's opinion constitution *plays a not inconsiderable rôle* in latent infections While the length of time necessary for the extinction of such an infection is variable nevertheless it can be calculated and there are certain methods of examination which indicate whether the danger is great or slight Moreover from the standpoint of diagnosis there is a great difference between latent infections of bone and of soft parts Of the bacteria coming into consideration streptococci gas gangrene bacilli and tetanus bacilli are most important There is considerable difference between infections of military and civil life Sometimes removal of tissue for examination or an exploratory *operation seems to be indicated* In general one positive finding is of more significance than many negative findings

Infection of bone by an open injury or by way of the blood stream constitutes the chief source of danger Severely infected joints likewise offer most favorable conditions for the lodgment of bacteria. In the ankylosis of such joints bone and soft tissues combine to favor latent infection Other regions of the body are the sites of latent bacteria much less often than the skeletal system Foreign bodies are especially apt to carry latent infection Military practice has shown that foreign bodies and bacteria *carried deeply* into the tissues and widely disseminated by projectiles often give rise to infections after operations performed years later even when the primary wound healed without complications

Firm infiltrations after phlegmons tenderness of the soft parts over ankyloses pain in scars with

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

McKelvey J I Abnormalities of the Hind End of the Body *J College Surg Australasia* 1929 i 285

The author gives briefly the clinical histories of (1) a boy with an imperforate anus and little evidence of a proctodeal dimple (2) a man forty eight years of age with hypospadias extending to the perineum and a split scrotum and penis (3) a girl thirteen years of age with a double uterus and enormous distention of the left tube and left uterus by menstrual blood due to lack of a communication between the left cervix and the vagina and (4) a girl ten years of age with exstrophy of the bladder and an imperforate hymen causing hæmatometra

Following a review of the early development of the embryo he describes and classifies the deformities that may occur in the formation of the genital organs of the female and discusses in detail the faulty differentiation of the cloaca and the development of hypospadias epispadias and extroversion of the bladder In conclusion he states that in his opinion none of the theories formulated to explain these anomalies is entirely satisfactory

FRED C ROBERTSHEA M D

Walshe F M R The Physiological Analysis of Some Clinically Observed Disorders of Movement *Lancet* 1929 ccxvi 963

The author distinguishes three physiological levels of function in the nervous system The lowest level is subserved by the afferent and efferent neurones of the segmental nervous system It is fully organized at birth and has a well defined range of activity which is not variable Upon this level depends the simple coordination of movement and posture

The middle level is represented anatomically by the projection system neurones of the cerebral cortex The function of this level consists in the analysis of the relatively large movements which are subserved as reflex reactions by the lowest level and the synthesis of numerous fractions into a vast number of combinations and sequences of movement and postures

The highest level is the most complex and differentiated It achieves the final integration of the organism and its adaptation to its environment

In hemiplegia spasticity in the upper limb is maximal in the flexors of the wrist and digits the flexors and pronators of the forearm and the abductors of the upper arm The extensors of the wrist and digits usually show no spasticity In the lower limb spasticity is maximal in the plantar flexors of the foot and toes the knee extensors and the thigh abductors

Spasticity can be abolished by posterior root section and by the intramuscular injection of novocain in such strengths as to paralyze conduction in the sensory nerves of the muscles

Spasticity due to pyramidal lesions is characterized by reaction to sudden stretch by tendon jerk and clonus reaction to slight increasing stretch by inhibition and the presence of tonic reflexes arising in the labyrinths and the neck and limb muscles

EARLE I CREENE M D

Abernethy D A A Case of Primary Double Epithelioma *Brit J Surg* 1929 xvi 687

Eight years before coming to operation the patient whose case is reported had fallen from a bicycle cutting his face on the left side The wound failed to heal entirely and a sinus exuding a watery discharge persisted for seven years During the last twelve months a warty excrescence had grown from the edge of the sinus A lump had been present in the edge of the pinna of the right ear for an indefinite time and the skin overlying it had become thin and had broken down allowing the extrusion of a hard brownish stone ¼ in in diameter After extrusion of the stone there remained an ulcer which had failed to heal and in four months had increased in size

At the time the patient was examined by the author he presented a papillomatous growth on the left side of the face midway between the external auditory meatus and the external canthus and an ulcer in the highest part of the pinna of the right ear The papillomatous growth was about ¾ in in diameter and raised about the same distance from the surface Its base was hard and indurated It showed no ulceration The ulcer of the ear which was 1 in long and ⅗ in broad had raised irregular edges and a raised indurated base No adenopathy was present

On section following their removal both growths were found to be epitheliomatous and to contain cell nests

In the author's opinion trauma played an important part in the production of these two cancers

ANTHONY I SAVA M D

Pearl R Sutton A C and Howard W T Jr Experimental Treatment of Cancer with Tuberculin *Lancet* 1929 ccxvi 1078

The authors report seven cases of cancer regarded as hopeless which they treated with tuberculin a bouillon filtrate from Human Strain 37 The dosage and intervals were regulated according to the patient's sensitivity as determined by an intracutaneous test with old tuberculin

Following each injection there appeared to be a definite reaction in the tumor During the first six

abdominal lymphatic glands in Peyer's patches Death may be due to a vagus disturbance a lympho toxæmia or anaphylactic shock

Ethyl chloride affects blood pressure very markedly and seems to cause death by depressing the respiratory center Death in nitrous oxide anæsthesia is due to a mixture of asphyxia and anoxæmia In cases of death due to ether the postmortem findings are variable GEORGE K. MCAULIFF M D

Martin B Our Present Day Knowledge of Avertin and Its Practical Use (Unsere heutige Kenntnis des Avertins und seine praktische Verwendung) *Deutsche med Wchnschr* 1923 ii 2068 2110

Martin presents a review of the more recent results and advances in the induction of anæsthesia with avertin Studies on the absorption of avertin revealed the important fact that solutions of low concentration are absorbed more slowly and are therefore less toxic than those of a higher concentration Accordingly the use of dilute solutions permits the administration of larger doses

Up to 80 per cent of the avertin is excreted together with gluconic acid Its excretion begins very rapidly and attains its maximum in about four hours

With regard to the dosage Martin states that usually from 0 12 to 0 15 gm per kilogram of body weight is given in a 3 per cent solution For obtaining familiarity with the procedure in which the greatest care is always necessary he recommends the induction of a basic narcosis with 0 1 gm per kilogram of body weight In addition to the body weight the patient's age resistance and reactivity and the severity of the operative procedure are of importance in determining the dosage

In the preparation of the patient for avertin anæsthesia thorough evacuation of the bowel is not absolutely essential but it seems to be of importance to give supplementary medicaments such as morphine pantopon etc since in nearly all cases these drugs assure complete anæsthesia Martin recommends the addition of from 20 to 25 c cm of a 20 per cent magnesium sulphate solution to the enema and the simultaneous subcutaneous injection of 0 03 gm of narkophin

Accidents from circulatory disturbances are rare and the fall in the blood pressure is usually not alarming Of greater importance is the effect on the respiratory center Next to evacuation of the enema carbon dioxide inhalation is the best remedy for respiratory disturbances

Avertin narcosis has about the same indications as general anæsthesia It is recommended particularly for patients with psychic disturbances (Basedow) decrepit persons and extensive abdominal and thoracic operations The contraindications include chronic pulmonary disease in which the respiratory surface is diminished (phrenicus exeresis) acute injuries to the renal parenchyma chronic renal insufficiency heart disease without cardiac reserve ulcerative lesions of the colon increased intracranial pressure and brain tumors

The after treatment following avertin narcosis is no more difficult than that necessary after other types of anæsthesia The after sleep lasts for from one and one half to two hours Post anæsthetic disturbances such as vomiting and restlessness are uncommon

None of the five deaths occurring during 1918 following avertin narcosis was due entirely to the avertin

In addition to its use as a narcotic agent avertin is of value in the treatment of tetanus and in experimental investigations KOENIG (Z)

nism by which such a physiological inhibition is produced is as yet not known JACOB M MORA M D

Christiansen T Macrosomia Adiposa Congenita A New Dysendocrine Syndrome of Familial Occurrence *Endocrinology* 1929 xiii 149

The condition described by the author occurred in seven of the nine children of two sisters with menstrual disorders All of the children were born at full term Of the seven with macrosomia five died within the first year of life In the one case which came to autopsy adenomata were found in the suprarenal cortex and there was an accumulation of eosinophiles in the thymus

Macrosomia adiposa congenita is an obese type of premature development probably depending on hyperfunction of the suprarenal cortex It is in a class by itself because of the absence of sexual abnormalities and hirsutes Perhaps it is a pluriglandular syndrome It may be regarded as a lethal hereditable abnormality a phenomenon of transformative heredity J FRANK DOUGHTY M D

Smith E E Thymoma of Lymphosarcoma Type *Ann Int Med* 1929 ii 1063

The author reports a thymoma weighing 3 110 gm the largest on record Cytologically the tumor corresponded most nearly to a pure lymphosarcoma It had not markedly invaded the contiguous tissues but surrounded and compressed the mediastinal structures The patient had been sent to the hospital with a diagnosis of hyperthyroidism and the tumor was shown by the X ray GEORGE A COLLETT M D

SURGICAL PATHOLOGY AND DIAGNOSIS

Revner C E The Sedimentation of Red Blood Cells *J Lab & Clin Med* 1929 xiv 630

Numerous theories have been advanced to explain the acceleration of the sedimentation rate of the red blood cells in certain diseases The observation that bacterial suspensions to which formaldehyde has been added are more difficult to throw down in the centrifuge than those not so treated suggested the application of the surface tension principle to a study of the sedimentation of red blood cells

In a series of experiments it was found that the surface tension of blood is increased by the addition of formaldehyde and markedly decreased by the addition of sodium oleate The rate of sedimentation of red blood cells is greatly diminished by sodium oleate in normal blood as well as in the blood of persons with pulmonary tuberculosis These facts suggest that the acceleration of the rate of sedimentation in tuberculosis and other infectious diseases is explainable upon the basis of surface tension GEORGE A COLLETT M D

Harvey S C The Velocity of the Growth of Fibroblasts in the Healing Wound *Arch Surg* 1929 xviii 1227

Harvey states that the tensile strength of a healing wound is a function of the multiplication and maturation of the fibroblasts Before growth becomes appreciable in the terms of this function there is a latent period of approximately four days The velocity of growth so determined starts abruptly at a maximum and progressively diminishes

The curve of the velocity of growth is closely analogous to the autostatic or growth retarded phase of growth in general and approaches an asymptote which represents the strength of connective tissue of the age of from ten to fourteen days HOWARD A MCKNIGHT M D

Melzner E A Statistical Contribution on the Value of the Tuberculin Test in Surgery (Statistischer Beitrag zur Bewertung der Tuberkulinprobe in der Chirurgie) *Beitr z klin Chir* 1928 cxliv 621

As in recent years there has been increasing doubt regarding the practical value of the diagnostic tuberculin reaction the author set himself the task of studying and reporting upon the findings in 183 cases examined at the surgical clinic of the University of Koenigsberg

He concludes that the positive local reaction is not a certain indication of the presence of tuberculosis since in one half of the cases the disease is not specific He states also that the *negative local* reaction does not exclude tuberculosis with certainty since of 100 cases of certain tuberculosis *only 22* gave a positive reaction Finally he expresses grave doubt as to the specificity of the local *reaction* the purely specific action of the tuberculin The reaction is of most value in disease of the joints and bones and of least value in disease of the epididymis

On account of its unreliability Melzner recommends that the test be discarded entirely and that in its stead biopsy be employed as a supplement to *roentgen* examination the demonstration of the tubercle bacillus and animal experimentation VOGELER (Z)

Fairley K D The Intradermal Test in Hydatid Disease A Critical Analysis *of Its Results* *Med J Aust alia* 19 9 1 472

In a study of the results of the intradermal test for hydatid disease Fairley found that in patients not previously operated upon for hydatid disease an im*mediate* response was obtained in 77 per cent of those with uncomplicated cysts and in 92 6 per cent of *those with ruptured* or suppurating cysts However of eighty seven patients showing an immediate reac*tion there was* proof of hydatid disease in only fifty two (59 8 per cent) A positive response to the test *is therefore* not conclusive evidence of hydatid disease

Great care is necessary in the interpretation of the *reaction* Operation should never be undertaken on the basis of the test alone

Of the patients without an immediate response to the test no evidence of hydatid *infestation* could be found in 96 8 per cent The absence of an immediate response is therefore an extremely valuable though

weeks the dosage was kept low At the end of that period definite improvement in the patient s condition was usually noted although up to that time little change was apparent In increasing the dosage at the end of six weeks great caution is necessary as death may result from the too rapid production of toxic products by the changes produced in the tumor tissue or from a condition closely resembling allergic shock

In the authors opinion the clinical and histopathological results which have been obtained so far are of a sufficiently promising character to warrant continuation of the investigation The most effective method of using tuberculin in the treatment of cancer the effect of tuberculin on early cancer and the value of tuberculin treatment in combination with surgery radium irradiation and other forms of cancer therapy are still to be determined

SAMUEL KAHN M D

GENERAL BACTERIAL, PROTOZOAN AND PARASITIC INFECTIONS

Dew H Secondary Echinococcosis J College Surg Australasia 929 1 337

Dew first describes the structure of the simple hydatid cyst He states that the death of the parasite does not invariably occur when such a cyst is punctured or ruptured under aseptic conditions that in fact it probably seldom occurs In many cases the germinal elements give rise to a fresh local or widely distributed series of cysts a secondary echinococcosis

In the author s opinion secondary cysts are derived mainly from the relatively undifferentiated scolices rather than the mature type When shed into the tissues under aseptic conditions daughter cysts brood capsules scolices and germinal membranes may become implanted and give rise to secondary cysts that ultimately become fertile

The author discusses briefly the localized secondary the peritoneal and pelvic the pleural and the metastatic forms of echinococcosis

In the peritoneum secondary cysts are the most common type They are always due to leakage from a primary abdominal cyst The latter is usually situated in the liver but in some cases may be in the pleen kidney, or omentum The immediate results of rupture of the cyst include pain peritoneal shock and anaphylactic symptoms In the operative treatment of peritoneal cysts a search for the primary cyst should be made

Intrapleural rupture of a cyst is usually followed by a simple or valvular pneumothorax or an infective process but sometimes causes only transitory anaphylactic symptoms If aseptic conditions are maintained the formation of secondary cysts may follow the implantation of scolices on the pleural surfaces Multiple secondary cysts of the pericardium have also been found

Metastatic secondary cysts are the rarest form and are due to the intravascular rupture of a fertile simple cyst The rupture may take place into the venous circulation—either the peripheral veins or the right side of the heart—or into the arterial circulation—one of the left chambers of the heart As is to be expected anaphylactic shock is often severe and sometimes fatal As a rule however it is followed by recovery Scolices entering the heart from the veins are carried to the lungs where they form multiple metastatic cysts When the rupture of the cyst occurs into the left auricle or ventricle the hydatid elements enter the systemic circulation giving rise to metastatic cysts in various parts of the body Sixty per cent of the cysts thus formed occur in the brain In the child brain cyst are usually single and primary whereas in the adult they are usually multiple and secondary Primary cysts of the brain are seven times as common in the child as in the adult

In conclusion the author states that when the extrahepatic cysts exceed one third of the total number they are probably secondary

EARL C ROBITSHEK, M D

DUCTLESS GLANDS

Lawrence C H and Rowe A W Studies of the Endocrine Glands VII An Analysis of 500 Cases Simulating Endocrine Disorders End crinology 1929 xiii 109

From the laboratory and clinical findings in 500 cases of conditions simulating endocrine disorders the authors draw the following conclusions

1 Endocrine and non endocrine conditions often simulate each other so exactly that they can be differentiated only by correlating complete clinical and laboratory studies

When clinical examination discloses evidence of organic disease this evidence must take precedence in the determination of the diagnosis over any signs of metabolic disturbance

3 While the history and physical examination are essential to the differentiation of non-endocrine and endocrine conditions clinical examination is often insufficient for the establishment of a correct diagnosis and must be supplemented by such laboratory studies as may be necessary to reveal the status of metabolic efficiency J FRANK DOUGHTY M D

Verney E B Polyuria Associated with Pituitary Dysfunction Lancet 1929 ccxvi 539

Verney reports his studies on polyuria made with heart lung kidney preparations before and after hypophysectomy

He concludes that the polyuria following isolation of the mammalian kidney is due to the removal of the kidney from the normally sustained anti-diuretic action of the secretion of the pituitary *Diabetes insipidus* is due to the loss of the influence of the pituitary upon the kidney In all probability the retention of water leads to a temporary inhibition of the function of the pituitary and thereby to the release of the kidney from its anti-diuretic influence The mecha

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Of the patients without an immediate response to the test no evidence of hydatid infestation could be found in 96 8 per cent The absence of an immediate response is therefore an extremely valuable though

not absolutely conclusive indication of the absence of hydatid disease When there is no history of a recent urticarial rash the absence of an immediate response excludes a ruptured or suppurating cyst

In Australia a positive delayed response to the first intradermal test is of value as evidence of the presence of hydatid disease provided the fluid used for the test is known to be suitable This response was found in only 56 per cent of the patients with uncomplicated cysts and 26 per cent of those with ruptured or suppurating cysts The absence of a delayed reaction is of no value in excluding hydatid disease In a patient not previously operated on for hydatid disease absence of a delayed reaction in the presence of a positive immediate response associated with high titre complement fixation or precipitin tests is pathognomonic of rupture or suppuration of a cyst Such findings are frequent also in the second week after operation on a hydatid cyst

The pathological condition of the cyst has a much greater influence on the intradermal reaction than the location of the parasite

In the postoperative period immediate reactions were absent in 9 8 per cent of the patients whose cases are reviewed Absence of an immediate reaction months or years after an operation in the case of a patient previously showing a positive response is strong evidence of cure when recent rupture of a cyst can be excluded A pre-operative delayed reaction usually disappears within from a few hours to a fortnight after operation Generally it reappears in from ten days to two months When no absorption of antigen occurs the reaction is not affected by surgical interference When reactions occur ten years or more after an operation for hydatid disease a careful investigation for other cysts should be made

JACOB M MORA M D

EXPERIMENTAL SURGERY

Pocock R I Lovell R Hindle E Thomson J G Cameron T W M Wigglesworth V B and Hamerton A E Discussion on Monkeys and Human Disease *Proc Roy Soc Med* Lond 1929 xxii 819

Pocock discusses the zoological relations of primates He states that the primates of the Eastern Hemisphere aside from man belong in two groups the monkeys (cynomorpha or dog like) and the apes (anthropomorpha or man like) Between these two groups there are definite structural differences—the relative length of the arms and legs and the structure of the hands and feet—which lead to different types of locomotion on land and through the trees

The gibbon the most monkey like of the apes was formerly assumed to represent a transitional stage between monkeys and the higher apes but this assumption was not correct The gibbon's methods of climbing and walking are different from those of the monkey The apes seem to have learned to climb secondarily their remote ancestors having lost in great measure their power to climb They were formerly more terrestrial and less arboreal than they are now The newer method of climbing was perfected in the gibbons

The structural resemblance between man and the ape is so well marked as to establish a definite relationship between the two In the hand of man the thumb projects close to the wrist as in the apes and the foot has a broad heel The structure of the foot with the dominant first toe adherent to the sole and unopposable to the other toes is unlike that of any other foot in the animal kingdom This indicates that the common ancestor of man and the apes was mainly terrestrial and that whereas the apes returned more toward arboreal habits man perfected terrestrial locomotion in the erect bipedal manner

In discussing bacterial diseases in monkeys Lovell states that as no authentic cases of bacterial infection of monkeys in their natural state is known a consideration of bacterial diseases in these animals must be limited to infections occurring spontaneously and infections produced experimentally in monkeys in captivity

The diseases occurring spontaneously include respiratory diseases such as pneumonia and tuberculosis and diseases of the digestive tract

Blake and Cecil in 1920 studied a spontaneous outbreak of pneumonia in a shipment of monkeys Of thirty six cases twenty-eight were due to streptococcus pneumoniæ of Group 4 two to streptococcus hæmolyticus and two to streptococcus viridans In the four others the cultures were sterile or contaminated The spread of the epidemic was believed to be due to overcrowding

In 1928 Wisner reported eight cases of Type pneumococcus infection (streptococcus pneumoniæ) among seventy six monkeys at the Rourmanian Serological Institute Vaccine treatment was credited with causing the cessation of the epidemic Lovell cites two cases showing the streptococcus pneumoniæ of Group 4 In one case hæmophilus influenzæ was also found

Scott in 1925 reported an epidemic of colitis among baboons in which the bacterium erirycke (mutton) was isolated from twelve of fifteen fatal cases The bacterium flexneri and bacillus morgani have also been found in these animals Another organism allied to the dysentery group of bacilli was isolated from four animals in which inflammation of the intestines was found at necropsy

In 1923 Fox reported tuberculosis in monkeys captured for experimental work but the possibility that the infection was acquired from man could not be excluded In monkeys in captivity tuberculosis is a common cause of death The human and bovine types of the bacillus are equally virulent while the avian type is distinctly less virulent The human type is the most common cause of the disease

Other organisms which have been found are the staphylococcus aureus the staphylococcus equinus and one of the pasteurella group

Diseases produced in monkeys by experimental methods include Malta fever yellow fever lobar pneumonia cerebrospinal meningitis and leprosy

HINDLE discusses filterable viruses He states that because of their close approximation to man monkeys and apes are favorable subjects for the study of human diseases particularly conditions due to the filterable viruses some of which cannot live in any other host With the exception of rabies however there is little direct evidence that in the wild state monkeys are susceptible to the virus diseases of man In 1915 Balfour reported that in Trinidad epidemics of yellow fever are always preceded by the deaths of large numbers of red howler monkeys In West Africa all of the species of monkeys are naturally immune to yellow fever and therefore they do not act as natural reservoirs of infection

Although monkeys are susceptible to rabies there is no authentic case of transference of this infection to man from a monkey

Certain of the human virus diseases notably yellow fever and poliomyelitis can be studied only in certain species of monkeys

Yellow fever is endemic in West Africa and in parts of South America Recently the macacus rhesus and to a less degree the closely related macacus sinicus were discovered to be suitable laboratory subjects whereas formerly only human volunteers could be used The susceptible animals were invariably Asiatic There is a great difference in the susceptibility of the macacus rhesus and macacus sinicus the former almost invariably dying while the latter is more resistant and cannot be used for maintenance of a strain

There is apparently a lack of correlation between virulence in man and in monkeys A mild case in man seems more favorable than a severe one for transmission to monkeys The virus seems to maintain its virulence for man after many passages through monkeys for six laboratory infections have occurred within eighteen months The probable route is through the unbroken skin (Bauer and Hudson 1928)

The pathological changes produced in man are almost identical with those produced in monkeys but in man the virus seems to disappear from the blood and probably also from the internal organs after the first three days of fever whereas in monkeys the blood and organs are extremely virulent

As a direct result of studies in monkeys Hindle discovered a method of vaccination which is protective in monkeys and was used successfully also in the recent epidemic in Brasil (Aragao 1928) The vaccine is a formalinized or a phenol glycerin suspension of the liver and spleen of an infected monkey killed when the temperature had become subnormal and the animal was moribund The vaccine appears to be a successful protective agent supplementing control of the disease by anti mosquito campaigns

Poliomyelitis was first transmitted to monkeys by Landsteiner and Popper in 1909 The mortality rose in succeeding passages until nearly every animal died from respiratory paralysis The virulence of the bacteria persists for several years It then diminishes but is renewed after further passages

Measles was reproduced in monkeys as early as 1905 In 1921 Blake and Trask reproduced a constant group of symptoms closely resembling those noted in man by intratracheal injections of nasopharyngeal washings from cases of measles in the preeruptive and early eruptive stages The washings were still capable of producing the disease after being passed through a Berkefeld N filter a fact proving that the infection was not dependent on the organisms of the mouth flora Recovery confers immunity in monkeys as well as in man

Other virus diseases which can be produced in monkeys are smallpox rabies typhus fever Rocky Mountain fever Japanese river fever trachoma and Oroya fever For most of these infections other hosts can be used but in the study of poliomyelitis and yellow fever monkeys are essential

THOMSON states that parasites of the four classes of protozoa—rhizopoda mastigophora sporozoa and ciliata—are found in man and monkeys and comparative study shows that some of the species are morphologically identical In 1928 Hegner reported that when a species of protozoa is found in two species of mammals it may indicate a close relationship between the hosts

In monkeys nine species of entamœba have been found which correspond morphologically to the entamœba histolytica and entamœba coli of man

Of the flagellates the genera trichomonas chilomastix giardia and embadomonas have been found in monkeys and are morphologically identical with those found in man

The only ciliate of importance found in man and monkeys is balantidium coli

Trypanosomes have been discovered in monkeys in districts where sleeping sickness is epidemic The organisms are morphologically identical with trypanosomes occurring in man

Malarial parasites have been found in various species of monkeys in all parts of the world Some of them are very similar to the three species found in man but have not yet been proved identical

CAMERON states that many helminths have been found in man About twelve are common and important They belong to two different phyla—the flatworms (trematodes and cestodes) and the round worms (nematodes)

The important trematodes found in man include clonorchis paragonimus fasciolopsis and the three species of bilharzia worms—schistosoma hæmatobium schistosoma mansoni and schistosoma japonicum Of these only schistosoma mansoni has been definitely found in monkeys The flukes naturally occurring in monkeys are more closely related to those of bats and ruminants than those of man

The typical cestodes of man are tænia solium and tænia saginata diphyllobothrium latum and

hymenolepis nana None of these has been found in primates Bertiella the typical simian form has been found in isolated cases in man

The most important of the larval cestodes is the hydatid cyst the intermediate stage of echinococcus granulosus of carnivora It is found in monkeys but less frequently than in man The location of the cyst is of interest In man 75 per cent of hydatid cysts occur in the liver and 9 per cent in the lungs In man the pig and the horse the hydatid is predominantly a liver parasite while in monkeys carnivora rodents and cattle it is predominantly a lung parasite In sheep it is equally common in the liver and lungs The location of the cyst is dependent upon the size of the vessels If the liver vessels are large enough to allow the parasites to pass their next location is in the lungs

The most common nematodes found in man are ascaris enterobius trichocephalus the hookworms the Guinea worm and the filaria worms Ascaris lumbricoides rarely occurs in apes Enterobius vermicularis is peculiar to man but monkeys harbor various species of the same genus Trichocephalus trichiurus is very wide spread in man and apes Monkeys harbor necator but not ancylostoma Œsophagostomum termidens and physaloptera caucasica have been found in man as well as monkeys Trichinella can be transmitted to monkeys but does not occur in them naturally

The helminthic parasites common to man and monkeys are the schistosoma mansoni and trichocephalus Among those found only accidentally in monkeys but commonly in man are ascaris and loa Simian forms found only accidentally in man are bertiella œsophagostomum termidens and physaloptera The genus enterobius represents an evolutionary series with a common presimian ancestor for the human and simian species

The monkey is a definite reservoir host for the schistosomes and possibly also for the physaloptera and trichocephalus The two latter are not of much importance from the standpoint of preventive medicine The appearance of schistosoma mansoni in monkeys in the British West Indies where bilharziasis is endemic makes the problem of control a difficult one It is probable that monkeys are also a reservoir for schistosoma hæmatobium

WIGGLESWORTH discusses phthiriasis in the primates He states that the lice of warm blood animals belong to two groups the mallophaga or biting lice which are dominant on birds but occur also on mammals and the siphuncuatal or sucking lice which are found only on mammals From a study of the mallophaga of birds Kellogg concluded that the distribution of closely allied species of these parasites is racial rather than geographical and that the study of the parasites may indicate phylogenetic relationships

Of the siphunculata the family pediculus is confined to man and the anthropoid apes with the single exception of the spider monkey (ateles) of South America Friedenthal showed that the spider monkey possesses certain characteristics of blood and hair which closely approximate those of the anthropoid apes and man It is therefore considered possible that pediculus crossed over from an anthropoid host to the ancestors of the ateles Phthirus the crab louse was considered peculiar to man until the recent discovery of a new species phthirus gorillæ on a gorilla from the Belgian Congo These facts suggest that man is more closely allied to the anthropoid apes than the apes are to the lower families of monkeys

HAMERTON describes specimens of morbid anatomy in monkeys The conditions include (1) placenta prævia (2) primary alimentary and primary respiratory tuberculosis (3) combined tuberculous and mycotic infections (4) a sarcoma of the lung apparently secondary to malignant ulceration of the mouth and associated with metastases in the liver spleen and kidneys (5) an endothelioma affecting both lungs with metastases in the thoracic and abdominal glands diaphragm pleura, and kidneys (6) valvular and mural endocarditis with infarcts in the brain and kidneys (7) dysentery like ulcerations of the large intestine with thrombosis of the mesenteric veins and miliary abscesses in the liver from which bacillus aertrycke was isolated and (8) generalized cœnurosis in which cœnurus cysts varying in size up to that of an orange were found in the breast shoulders arms and kidneys and the pleural and peritoneal cavities E S PLATT M D

German W J The Effect of Some Antiseptics on Tissues *in Vitro* *Arch S* 5 19 9 xviii 19 0

The author studied the effects of gentian violet acriflavine potassium mercuric iodide mercurochrome and picric acid on tissue cultures of the skin of embryonic chicks The tissues were immersed for periods of one and five minutes in dilutions of these antiseptics varying from 1 50 to 1 6 400 A parallel series of determinations was made on the effect of the same dilutions on staphylococcus aureus streptococcus hæmolyticus and bacillus coli From the data obtained an index of efficiency was calculated for each dilution of each antiseptic by multiplying the bacteriostatic effect by the percentage of viability of the tissue cultures

The highest values for tissue viability were obtained with acriflavine This antiseptic also showed the greatest bacteriostatic effect in high dilutions In low dilutions the highest bacteriostatic effect was obtained with potassium mercuric iodide but this substance gave a tissue viability of zero throughout the determinations

Calculated on the basis of 1 for a perfect antiseptic that is an antiseptic having a bactericidal value and a tissue viability of 100 per cent each, the maximum index of efficiency for the different antiseptics was gentian violet 0 03 acriflavine 0 1914 potassium mercuric iodide 0 mercurochrome 0 0132 and picric acid 0 0975

The highest efficiency of acriflavine was in dilutions of 1 800 to 1 1 600 CARL R STEINKE M D

Kredel F E Intracranial Tumors in Tissue Culture *Arch Surg* 1929 xviii 008

The technique of the author s tissue cultures is described in detail The hanging drop method was used The results of cultures made of tumors during the summer of 19 8 were as follows

T m	T t l m b f l t e	Satisf t ry lt N mb	Pe c t
M d lloblast m	3	3	
Sp gioblast m m lt f me	9	9	
Astroc t m fib lla	3	3	
Acco ti om	7	5	7
M g m	4	3	75
P t t ry d m	6	o	
Ol g d l gl m			
Ep lym m			
Fp dym blast m	1		
Hæm g bla t m			o
Ch dr m		o	
Tot l	37	3	6

The differential characteristics of cells from three groups of gliomata in tissue culture were as follows

	M d lloblas t m	Sp g bl tom	A t ocyt m
G wth	+++	++++	+
G wth p tte	Sh t	S tt d	R t l m
Sh p f ll	C bo d l d d d	Amœb d m lt pol	St ll t
N l	Sm ll	Var d	Sm ll
Cyt plasm	Sc t	Ab d t	M d t
G les	Ra	La g d f tul	F
Pr ss	S gl d bl t	L g h t	Lo g d b h g
G t ll	O	+	O

The cell growth is shown in nine illustrations The author draws the following conclusions

1 The method of tissue culture is a practicable means for studying the cellular components of many intracranial tumors since with a simple technique 62 per cent of a series of thirty seven such tumors showed satisfactory growth *in vitro*

There is a characteristic appearance and behavior of the outwandering cells for each type of tumor cultured These distinctions are sufficiently marked to be used as a basis for diagnosis

3 There appears to be some correlation between the growth of tumors *in vitro* and the rapidity of their clinical course

4 Medulloblastomata in culture give rise to cells indistinguishable from cells found in spongioblastomata

CARL R STEINKE M D

Firor W M and Stinson E Jr Total Extirpation of the Dog s Liver in One Stage *Bull Johns Hopkins Hosp* Balt 1929 xliv 138

The authors describe a reliable and simple method for the removal of the liver at a single operation From 80 to 90 per cent of the dogs upon which it was performed recovered sufficiently to walk bark run around urinate defæcate and drink water Death was associated with symptoms of hypoglycæmia and in the cases of untreated animals occurred within two or three hours The intravenous administration of glucose prolonged life by from ten to sixteen hours

WILLIAM E SHACKLETON M D

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INTERNATIONAL ABSTRACT OF SURGERY

NOVEMBER 1929

LANDMARKS IN SURGICAL PROGRESS

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GURDON BUCK AND BUCK'S EXTENSION

UP to the time of Percival Pott (1714–1788) and Pierre Joseph Desault (1744–1795) the management of fractures of the shaft of the femur was largely that of the great French clinical surgeon Ambroise Pare (1510–1590) and of the Father of English Surgery Richard Wiseman (1622–1676) Pare readily recognized the difficulties incident to the proper management of fractures of this bone and while he illustrates and describes the extension apparatus of the ancients he advocates the use of my pulley for separating the fragments prior to bringing them into apposition Pare says[1]



Gurdon Buck
(1807–1877)

It is a hard thing to bring the fragments of the broken thigh together to be set by reason of the large and strong muscles of that part which whilest they are drawn back towards their originall by a motion both naturall and convulsive they carry together with them the fragment of the bone where into they are inserted Therefore when as the fracture of this bone shall be restored the Patient must lye upon his back with his leg stretched forth and the Surgeon must strongly and with force extend the thigh but if he alone shall not be able sufficiently to extend it he shall imploy two other strong attendants by whose joint help the fragments may be fitted and set each against other For this purpose when as the strength of the hand was not sufficient the Ancients used an Instrument called a *Glossocomium*[2] whereof this is the figure

Instead of this *Glossocomium* you may make use of my Pulley for *Hippocrates* in this bone when it is broken *doth approve of* extension so great that although by the greatness of the extension the ends of the fragments be somewhat distant asunder an empty space being left between yet notwithstanding would he have ligature made For it is not here as it is in the extensions of other bones whereas the casting about of Ligatures keeps the muscles unmoveable but here in the extended thighs the deligation *is not of such* force as that it may stay and keep the bones and muscles in that state wherein the Surgeon hath placed them For seeing that the muscles of the thigh are large and strong they overcome the ligation and are not kept under by it

From a reading of Pare's entire discussion it is evident that his pulley was not applied for the purpose of continuing traction during the healing period

[1] The Workes of th t f m Ch ru gio Amb P y T l ted out f Lat l comp ed w th th F b by Th J h wo Wh e t ar dd d th T t tes t f Ad ia Sp g l f th \ s Aimes & \ es w th l g Fgu Lo l 6 9 p 37

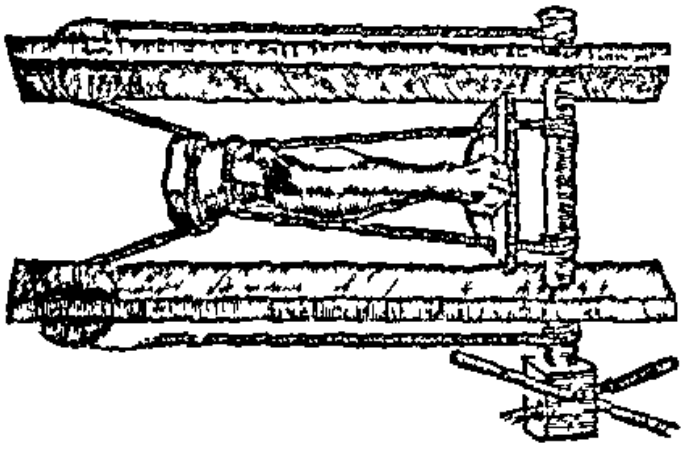


Figure taken from The Workes of that famous Chirurgion Ambrose Parey 1649 showing the extension apparatus of the Ancients —the Glossocomium

Henry A Martin[1] (1824–1884) says that Fabricius Hildanus (1560–1634) advocated and used a weight and pulley for the purpose of making continuous traction on the lower fragment of a fractured femur John Bell (1691–1780) says in his Principles of Surgery[2]

Surgeons being wearied with the perpetual turning of screws to tighten the bands around the ankle at last most happily thought of putting a pulley to the foot of the bed and hanging a good jackstone (the Jackstone of Hildanus) to the heel

According to Joseph François Malgaigne (1806–1865) Guy de Chauliac (1300–1368) employed a pulley and weight

The earliest published American report of the use of the pulley and weight appears to be that of William C Daniell[3] of Savannah Georgia The report is accompanied by a drawing showing the injured leg in extension with an attached weight hanging over the foot of the bed Daniell's report included two cases Of the first case he says

In the summer of 1819 I was called into the country to see a child of Mr Harboch's about seven months old whose left thigh had been obliquely fractured near the middle of the bone by the nurse falling with him in her arms I applied the many tailed bandage with four thin splints about three inches long to confine as well as I could the broken ends of the bones in apposition

Upon visiting the child the following day I found the fractured limb about the third of an inch shorter than the other from the lapping of the ends of the broken bone The patient being feverish a laxative was directed The dressings were renewed from time to time for about a week when the feverish symptoms had subsided and the child became in some measure reconciled to his confinement

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Am J M Sc. 8 9 v 350

The shortening of the limb still continuing rendered it necessary to adopt some means to counteract the contraction of the muscles and retain the ends of the broken bone in apposition The heat of the season as well as the age of the patient rendering the use of the ordinary splint (Physick's improved Desault) and bandages objectionable I adopted the following mode of treatment I passed a roller of muslin around the chest of the child several times to which I attached a bandage on each side and extended them above the head and fastened them to the head board of the bed This was done for the purpose of preventing the patient from being drawn down to the foot of the bed by the extending power I then passed a small silk handkerchief around the ankle and foot of the fractured limb and tied the ends together at the sole of the foot To these united ends of the handkerchief I attached a small cord which was passed over the foot of the bed where it suspended a small weight which was designed for the extension of the limb

The many tailed bandage with the four small splints were continued as heretofore In due time the broken bone united without any shortening or other deformity

In 1824 and five years after the fracture I examined the limb and found it of the same length and appearance with its fellow

Of his second case—that of an adult—he says

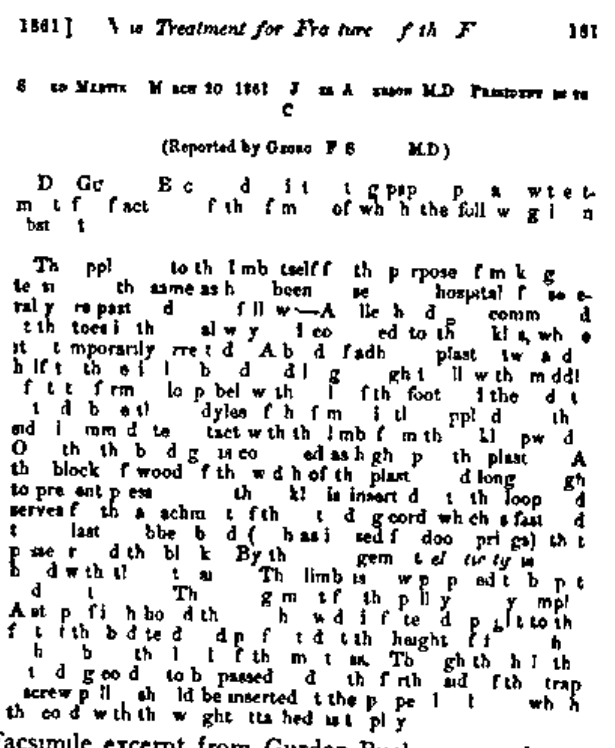
Whenever any shortening of the fractured limb was observed the leg was gently raised and extended to the proper distance where it was retained by the weight attached to the cord And here I will observe that the cord and weight are rather designed for retaining the limb properly extended than for extending it The latter it is known is readily performed The importance as well as the difficulty of keeping up that extension has been felt by every surgeon who has had a fractured thigh to treat I flatter myself that the above mode of making and maintaining the extension will be found an improvement It has certainly been such in my hands

L A Dugas[4] of Augusta Georgia published an account of the weight and pulley method which he employed in 1854[5] The case report of Dugas with an illustration was published in the report on fractures presented to the American Medical Association in 1857 by Frank H Hamilton[6] of New York In the method proposed by Dugas the weight of the body was relied upon to furnish counter extension and no mention is made of raising the foot of the bed as was later proposed by James L Vaningen[7] of Schenectady New York

Louis Al ander D gas bor W h gt C y Georgia J ary J y 6 ad ed M L U ver ty f Maryl nd 9 7 d d subsequ tly in Eu ope loca ing in A gu t Gene 8 one f h fou d rs f th Med al Colleg f Georgia ditor o Med & Su g J f 855
o Med & S g J Feb 85 p 69
9 bor f Prac c f T eatise F actu es d D s m E L s 86 Philad l b
[5] Am M Ass 857 pp 436–7

Prior to the remarkable essay of Percival Pott [1] surgeons had adopted the straight position in fractures of the femur employing usually one long lateral splint With the publication of Pott s essay the so called physiological doctrine be came firmly established in England Pott assumed and boldly advocated that muscle resistance could be overcome by posture without the necessity of providing extension that it was necessary only to flex the leg upon the thigh and the thigh upon the body resting the limb on pillows the body in clined toward the side of the injury This doctrine in the hands of others gave rise to the double in clined plane the patient resting upon his back—the position of flexion being maintained by the supporting frame The principle of Pott was quickly adopted by Sir Astley Cooper (1768–1841) John Bell and his brother Sir Charles Bell (1774–1842) and Sir James Earle (1755–1817) in England and by Dupuytren (1777–1835) in France Desault and Boyer (1757–1833) how ever demurred firmly for careful investigation showed an overwhelming percentage of cases of shortening in fractures so treated

From the time of Pott innumerable fracture appliances were devised such as fracture boxes straight splints molded splints inclined planes swinging frames leather and iron contrivances—all designed to maintain extension and to hold the fragments of the femur in apposition Philip Syng Physick (1768–1837) improved on the long splint of Desault and through Physick s wide opportunities for teaching this splint acquired general use in America H Lennox Hodge (1796–1873) devised an iron splint similar to Physick s long splint The so called anterior splint of Nathan R Smith (1762–1829) was a modification of the double inclined plane and consisted of a frame of stout wire covered with cloth from which the limb was suspended by a roller bandage The wire could be bent at will to accommodate the size of the limb and to provide flexion at the knee In spite of the advantages claimed for Smith s splint most surgeons of the day continued to use the straight position although admitting the many advantages of the improved splint of John T Hodgen [2] over that of Nathan R Smith To mention only a few of the many devices of the period 1770–1860 one should include Liston s method Amesbury s splint Boyer s splint Josiah C Nott s (1804–1873) double inclined plane James Palmer s (1811–1883) anterior splint and



1861] N w *Treatment for Fra ture f th F* 181

S ss Mrrr M rch 20 1861 J m A mson M.D Presidrrr in the C

(Reported by Gnso F S M.D)

D Gr E c d i t t g psp p s w t e t- m t f f act f th f m of wh h the foll w g i n bst t

Th ppl to th l mb tself f th p rpose f m k g te ti th same as h been se hospital f se e- ral y rs past d f ll w—A lle h d comm d t th toes i th al w y I co ed to th kl s, wh e it t mporarily rre t d A b d f adh plast tw s d h lf t th e l b d d l g gh t ll w th m ddl f t t f rm lo p bel w th l f th foot I the d t t d b e t dyles f h f m i tl ppl d th nd l mm d te tact w th th l mb f m th kl pw d O th th b d g is co ed as h gh p th plast A th block f wood f th w d h of th plast d long gh to pre ent p ess th kl is insert d t th loop d serves f th a achm t f th t d g cord wh ch s fast d t last bbe b d (h as i sed f doo pri gs) th t p sse r d th bl k By th gem t *el ctr ty* is b d w th tl t a Th limb is w p p ed t b p t d t Th g m t f th p ll y y mpl A st p fi h ho d th h w d f f te d p l t to th f t f th b d te d d p f t d t th haught f f h h b th l t f th m t as. Th gh th h l th t d g eo d to b passed d th f rth ad f th trap screw p ll sh ld be inserted t the p pe l t wh h th co d w th th w ght tta hed is t pl y

Facsimile excerpt from Gurdon Buck s original report published in the Bulletin of the New York Academy of Medicine 1860–62 vol 1 p 181

John Neill s (1819–1880) straight thigh splint The apparent greater success with the straight position in the management of fractures of the femur as testified by Philip Syng Physick John Syng Dorsey William Gibson William E Horner R Coates George W Norris Samuel D Gross John Ashhurst D Hayes Agnew John H Packard and many others was in a sense re sponsible for the ready and almost universal acceptance of Buck s device shortly after its publication

On March 20 1861 Gurdon Buck read before the New York Academy of Medicine a paper en titled A New Treatment for Fractures of the Femur [3] Dr Buck accompanied his presenta tion with detailed data of twenty-one cases in which this treatment had been employed and claimed for the method the following advantages

1 It maintains *uninterrupted* and *efficient* ex *tension* without producing intolerable pain exco riations sloughing and tedious sores

2 It diminishes very materially the suffering of the patient and the irksomeness of long confinement to one position There is no inconvenience attend ing the evacuation of the bowels

3 It is cheap and easy of application

4 It is not liable to become deranged thus ren dering it unnecessary for as frequent visits on the part of the surgeon as when the ordinary apparatus is applied

B lletin f th N w York A ad my f M dicin 86 1, 8 Se xcerpt fac im l

This method of treating fractures of the thigh by weight and pulley was at once recognized throughout the world as combining principles of great value

Samuel D Gross (1805–1884) in his System of Surgery says

The mode of treating fractures of the thigh originally suggested by Dr Gurdon Buck is now generally pursued in this country in most cases in which confinement in bed is necessary and every surgeon of experience can bear testimony to its great excellence The long splints are entirely dispensed with the extension being made by the action of a weight and pulley and counterextension by the usual perineal strap lengthened out and fastened to the head of the bedstead

Lewis A Stimson (1844–1917) the foremost writer on fractures of his day says

Buck s extension is the method in general use in the United States and very largely in Europe It is suitable to the great majority of cases is easily borne and as it permits a certain freedom of motion promotes the comfort and well being of the patient

In comparing Buck s extension with Hodgen s suspended splint Stimson says

I do not think it immobilizes the fracture quite so well as Buck s extension does

No one prior to Buck had provided a practical method easy of application and within the purview of the average practitioner Buck had probably read the American Medical Association fracture report of 1857 which contained an illustration of Dugas pulley and weight He may even have known of the jackstone of Hildanus or possibly may have seen the case report of Daniell At any rate he was the first to apply ingeniously the weight-extension principle and at the same time devise a simple and firm anchorage for the traction apparatus The results in his own practice and in that of thousands of others have justified his claims Buck s extension principle as well as Hodgen s suspension and the later Thomas[1] splint or their immaterial modifications find daily application

Gurdon Buck was born in New York City, May 4, 1807 He began his medical training under the preceptorship of Dr Thomas Cock, soon thereafter enrolling in the College of Physicians and Surgeons receiving his Doctor of Medicine degree in 1830 His internship was served in the New York Hospital and the three subsequent years were spent in study in the great clinics of Paris Berlin and Vienna Three years after his return to the United States he again visited Europe spending most of his time in Geneva where he married the daughter of the chief magistrate of that city On his return to New York in 1837 he was appointed visiting surgeon to the New York Hospital He was appointed visiting surgeon also to St Luke s the Presbyterian Hospital and the New York Eye and Ear Infirmary As a general surgeon he evinced particular interest in fractures surgery of the joints and plastic surgery He recognized the condition known as œdema of the glottis and became an adept in scarifying the swollen tissues with instruments of his own devising Probably no surgeon of his time excelled Gurdon Buck in ingenuity and fertility of invention His surgical technique won admiration and the highest praise from his colleagues He died at his home in New York City March 6 1877

H gh Ow Thomas f Liverpool 834 8o 1

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Worms and Lacaze Suppurating Sinusojugular Thrombophlebitis Opening of the Lateral Sinus Resection of the Internal Jugular Recovery (Thrombo phl bite suppurée sinuso jugulaire ouverture du sinus latéral résection de la jugulaire interne guérison) *Bull et mém Soc nat de ch r* 1929 lv 138

The case reported was that of a young soldier who in the course of a severe cerebrospinal meningitis complicated by bilateral neuritis of the eighth pair of cranial nerves and complete deafne s was taken with left otomastoiditis due to streptococcic infection The temperature was 40 degrees C After mastoidectomy the symptoms almost subsided and the temperature fell to 38 degrees C Three days later the temperature again rose to 40 degrees C the pulse rose to 140 and the patient suffered from chills and insomnia The wound which was suppurating and contained hæmolytic streptococci was irrigated and a culture of the blood was taken The next day slight pain was noted on pressure in the left carotid region anterior to the sternocleidomastoid but there was no perceptible induration of the cord The blood culture showed streptococcus hæmolyticus Puncture of the lateral sinus did not bring blood On incision a brownish clot was removed The sinus was then tamponed with gauze On the peripheral side toward the angle there was no hæmorrhage from the sinus wound The thrombosis seemed to have reached the gulf and the jugular

An incision was made along the anterior edge of the sternocleidomastoid and the vessel isolated Below the vein was normal as far as the superior border of the thyroid but at that point its caliber diminished Its wall still bluish appeared thick and granular and was not very easily depressed with the finger A dry puncture was made at this point The two ligatures of the jugular immediately above the thyrolinguofacial trunk remained intact The vein was resected between them and 3 cm below the base of the brain The infected glands were resected and the mastoid and cervical wounds left open

After this operation the temperature fell to normal and recovery seemed assured until otomastoiditis developed on the right side At mastoidectomy the lesions were found to resemble those of the left side The lateral sinus appeared blue pulsated very slightly and was slightly depressed The first puncture brought no blood and the second only a very small quantity A parietal thrombus was removed The wound healed normally and recovery resulted without complications In spite of tamponade of both sinuses there was no cephalic reaction

The authors call attention to the fact that the lateral sinus may have its ordinary deep blue color show no rhythmic pulsation and offer an elastic resistance even when it contains a developed clot Only puncture gives approximate certainty In the case reported section of the jugular vein with tamponade of the lateral sinus on one side and tamponade of the lateral sinus on the opposite side caused no circulatory symptoms no œdema of the face and no signs of cranial hypertension In the two weeks between the operations the collateral circulation had time to establish itself The high resection of the jugular trunk gave excellent results

When in simple thromboses of the lateral sinus without propagation to the gulf the blood flows from the lower end after the clot has been completely removed the authors never perform ligation or resection of the jugular PACE

Christophe L Thrombophlebitis of the Cavernous Sinus Operation Recovery (Thrombophlébite du sinus caverneux opération guerison) *J de chir et ann Soc belge de chir* 1928 p 312

The case reported was that of a woman aged thirty two years who had had the first bicuspid on the right side filled The tooth remained sensitive for several weeks the patient was unable to chew on the right side of her mouth This sensitiveness gradually subsided giving place to pain in the right side of the upper jaw irradiating toward the head The pain was treated as an ordinary neuralgia An abscess the size of a walnut then appeared under the mucogingival border of the diseased tooth This was incised and drained

At the beginning of the third month after the dental treatment the patient had fever which was thought to be due to grippe and suffered from pain in the right side of the face behind the orbit and throughout the right temporal zone which increased in intensity About six weeks later she complained of black spots before the right eye the sight weakened and by the third day the right eye was blind At this time she was in bed with a high temperature and almost daily chills The pains in the head and face persisted and a slight mental torpor became established Two weeks later the patient's family noted that the eye was protruding and the upper eyelid was swelling Slight lateral movements were possible but very painful Ophthalmoscopic examination showed the eye to be full of blood The

temperature was 39 5 degrees C The patient continued to complain of severe pain within the head in the nape of the neck and in the region of the maxillary nerves on the right A diagnosis of thrombophlebitis of the cavernous sinus was made

The condition was differentiated from phlegmon of the orbit by the motility of the globe This is preserved in phlebitis and is lost early in phlegmon The suddenness of the thrombosis of the ophthalmic vein with inundation of the internal cavities of the ocular globe argued for sinus thrombosis The pain in the course of the maxillary nerves indicated that the infectious process travelled by the venous route from the pterygoid plexus to the sinus and followed Trolard's vein contiguous to the inferior maxillary nerve At operation no pus was found in the orbit

As in the case of a lower limb affected with phlebitis the sinus must be put at rest To accomplish this it is necessary to suppress the continuous beating of the internal carotid In the first stage of the operation the right carotid was crushed in a Carrel artery clamp In the second stage an incision was made following the right eyebrow and thence curving backward the length of the zygomatic apophysis To reach the sphenoid sinus the apophysis of the malar bone was then resected and the contents of the orbit were crushed with a Krauss retractor against the posterior wall of the orbit When the perisinus spaces were opened with the bistoury blackish filaments of blood were evacuated The thrombus considered as a defense process was not disturbed A drain was placed in contact with and within the clot which represented the cavernous sinus

After the operation there was no operative shock and no sign of cerebral anæmia hemiplegia or hemiparesis The temperature gradually fell and on the sixth day the clamp on the carotid was replaced by a silk ligature and the primary carotid was resected The draining fluid became gradually more opaque whitish and purulent After fifteen days drainage was decreased A flow continued for two months and then stopped suddenly and the pain in the temporal fossa became more severe A probe evacuated only a few drops of pus The next day erysipelas was spreading from the fistula When drainage was re established the erysipelas disappeared

This is the first case in French literature of thrombophlebitis of the cavernous sinus in which the patient survived operation The patient's general condition is now excellent The technique used with regard to the eye during the operation is of great advantage for prosthesis as a certain amount of movement can be obtained PACE

Orlowitsch Wolk A The Results of the Konjetzny Operation in Habitual Luxation and Subluxation of the Jaw (Ueber die Folge der Konjetznyschen Operation bei habituellen Unterkiefer luxationen und Subluxat on n) 1928 Dissertation Kiel

In 1921 Konjetzny reported the cases of two patients with habitual luxation and one with an old luxation of the jaw whom he treated with good results by partially separating the cartilage from the joint and displacing it in front of the condyle of the jaw In this article Orlowitsch Wolk reviews the findings of re-examination of these patients reports the cases of ten others similarly treated and compares the operation with other procedures such as those of Nieden Lotsch Ashhurst Hoebers Behan and Goebell

The end results in the cases reviewed were satisfactory There was no recurrence The mouth could be opened sufficiently mastication was good and there was no permanent disturbance in the upper portion of the facialis

It is generally believed that in habitual luxation and subluxation of the jaw there is malfunction of the ligaments of the joint due to arthritic changes or injury All habitual pathological luxations of the jaw are due to changes in the tuberculum articulare or the planum infra-orbitale The Konjetzny operation gives a good functional result with minimal trauma SCHMOT (Z)

Schreiner B F and Mattick W I Tumors of the Salivary Glands Based on a Study of Sixty Six Cases *Am J Roentgenol* 1929 xxi 541

In the authors opinion the incidence of salivary tumors is about 1 per cent and is not dependent upon race A familial history of cancer was obtained in twenty of the sixty six cases reviewed In four five the tumor was in the parotid region The authors find it impossible to determine from the duration of a tumor in the parotid or submaxillary regions whether the neoplasm is a mixed tumor or a carcinoma Fifty four of the neoplasms in the cases reviewed were recorded as mixed tumors The authors believe that these tumors are of epithelial origin Two patients with carcinoma of the salivary glands were well two years after treatment by operation and irradiation with high voltage roentgen rays and one was still well after seven months

When the tumor is favorably located the method of choice is complete operation or removal of the tumor from its capsule followed by irradiation When the tumor is not situated favorably for operation irradiation by emanations radium packs or high voltage roentgen rays is preferable Salivary tumors recurring after operation are best treated by irradiation EMIL C KOHTSHRK M D

EYE

Kronfeld P C Modern Viewpoints as to the Mechanism of Glaucoma *Am J Ophth* 1929 xii 480

Kronfeld states that the vast amount of work that is being done with regard to glaucoma has raised many questions which are still unanswered and that the solution of the problem of the mechanism of the condition is still as distant as ever He regard as of importance the three following tests (1) the dark light test (2) the determination of the

tension after evacuation of the anterior chamber and (3) the determination of the tension with a 10- or 15 gm weight on the cornea

VIRGIL WESCOTT M D

De Blaskovics L The Treatment of Ptosis The Formation of a Fold in the Eyelid and Resection of the Levator and Tarsus *Arch Ophth* 1929 i 672

The procedure described is an interesting innovation which judging from the pictures gives unusually good results The operation is done almost entirely from the conjunctival surface It is essentially a shortening of the levator and a resection of about half of the tarsus An important detail is the position of the sutures which are tied on the skin surface The technique is fully described and illustrated by drawings THOMAS D ALLEN M D

Fenton R A The Present Status of Intranasal Operations for the Relief of Involvement of the Optic Nerve *Arch Otolaryng** 1929 ix 637

The author believes there should be less hesitancy on the part of ophthalmologists with regard to having the sphenoids and posterior ethmoids opened in cases of optic neuritis and retrobulbar neuritis He does not ignore causes of optic nerve involvement other than sinus infection—indeed he emphasizes them—but he thinks the skepticism concerning the value of intranasal surgery which is voiced so repeatedly by prominent ophthalmologists is due largely to the over enthusiasm and lack of skill of some rhinologists He discusses the brutality of certain operative procedures and then describes some of the more recent and less deforming methods In discussing the findings in the sinuses he quotes several European and American pathologists who state that an acrid serous discharge is present much more frequently than pus In the diagnosis of sinus infection the X ray is seldom of aid

THOMAS D ALLEN M D

EAR

Yoel M A Case of Othematoma in a Child Seven Years Old (Sur un cas d othématome chez un enfant de 7 ans) *Arch internat de laryng** 1929 xxxv 44[illegible]

Othematoma is generally found in male adults It is rare in women and still more rare in children The seven year old child whose case is reported in this article had received a blow on the ear in a quarrel with another child The following morning the parents observed a reddish soft tumefaction of the auricle of the right ear the size of a small apple There was no complaint of pain or buzzing A physician applied hot compresses Two days later the patient received another blow on the same ear and thereafter the tumor became five times its former size The hot applications were continued until at the end of fifteen days the neoplasm opened and discharged first coagulated blood and then a large quantity of sanguineous serum After the discharge it became smaller but still persisted A diagnosis of othematoma was then made

On account of the patient's age and the light character of the blow a predisposition in the blood was suspected The father refused a hæmatological examination FLORENCE A CARPENTER

Luscher E Otomicroscopy on the Living Subject (Otomicroscopie sur le vivant) *Arch internat de laryngol* 1929 xxxv 302

Luscher has made certain improvements in the otomicroscope recently described by him which simplify its use With this instrument which requires no cooperation on the part of the patient a magnification of from ten to fifty diameters may be obtained with ordinary light The examination is binocular and two persons can view the enlarged image at the same time Measurements may be made in three dimensions Atrophy and perforation of the tympanum are differentiated without difficulty Moreover inspection of the edges of a perforation will show whether the lesion is old or recent a matter of importance in establishing its relation to trauma Small hæmorrhages due to trauma may also be detected and are found much more frequently than is suggested by macroscopic examination or inspection with the lens

When the otomicroscope is used with Siegle's speculum it is possible to determine with exactitude the state of tension and mobility of the tympanum as a whole and in its several parts A vast field of research from the points of view of otological morphology and function has been opened up by details now for the first time made visible One of the most interesting problems is the blood circulation in the tympanic membrane and the middle ear The pressure in the smallest vessels can be measured with precision

A number of images as they appear with the otomicroscope are reproduced in the article Unfortunately photography is not possible with the instrument The otomicroscope is recommended especially for teaching for clinical examinations in which precision is essential and for investigative work

FLORENCE A CARPENTER

Quix Methods of Examining the Vestibule of the Ear (Les méthodes d examen de l organe vestibulaire) *Arch inter at de laryngol* 1929 xxxv 133

Heretofore study of the function of the vestibule has been limited largely to the horizontal semicircular canal The function of the two vertical canals has been very little studied and that of the otoliths has been neglected completely

In the vestibule of the ear there are five distinct sensory elements three crests one in each canal and two macules Each of these elements has a special function In order to examine the function of the vestibular organ as a whole—a double organ made up of the two vestibules—it is necessary to examine each of these ten elements

The author includes in his article diagrams showing the anatomy of the internal ear the movements produced by stimuli such as cold water and the results of pointing tests in different pathological conditions He attributes lack of clearness in the exposition of the facts partly to the complexity of the function of the vestibule and the insufficiency of knowledge possessed by most physicians regarding physics and geometry

The examiner must first have a very clear picture of the topographical situation of the different elements in the vestibule and an exact understanding of the mechanical forces set in motion by straight and rotatory movements the breaking up of these movements into their components and the recombination of the components In order to simplify the matter somewhat Quix arranges the tests and their results in two tables

The first table gives the test for each element in the vestibule and the diagnostic significance of spontaneous deviations Column 1 gives the element to be tested In the canal it is always the crest whereas in a utricle or saccule it is the macule Column 2 gives the test to be employed and the arm that is to be used in pointing Column 3 gives the number of the test Column 4 gives the nature of the functional disturbance when the deviation is negative and Column 5 the nature of the functional disturbances when the deviation is positive

In Table 2 Column 1 gives the test to be made first for the right arm and then for the left arm The diagnosis when the deviation is negative is indicated in Column 3 and the diagnosis when the deviation is positive is given in Column 4

In conclusion the author states that if the physician will make the different tests of rotation irrigation etc bearing in mind the laws of physics and will record them in accordance with these tables he will see that the function of the vestibule is simpler than it is generally believed to be

AUDREY G MORGAN M D

Busacca G The Importance of the Association of the *Fusospirochæte in the Complications* of Chronic Suppurations of the Ear (Sur l importance de l a sociation fuso spirochetique dans les compli ations des suppurations chroniques de l oreille) *Arch ital de laryngol* 1920 xxxv 295

Fusospirochætes are found only in chronic suppurations of the ear They are present in about 25 per cent of such cases In cases in which they predominate over other bacteria or are found in nearly pure culture neosalvarsan applied locally or administered by intravenous injection is beneficial In about half of the cases of very old chronic suppuration resistant to ordinary measures it will effect a cure Salvadori found the most efficacious treatment to be an ear bath of a 1 to 3 per cent solution of neosalvarsan

Popovic found the fusospirochæte in twenty eight of sixty nine cases of chronic suppuration of the ear He believes that they are simply saprophytes and that neosalvarsan is not the specific remedy for the condition

The author reports three cases Two of them were cases of chronic suppuration persisting over many years The pus contained a number of fusospirochætes among other bacteria The postoperative course was abnormal For two months there was an abundant and very fœtid secretion A granular lesion then formed which bled readily and from which a necrotic exudate was obtained The microscope revealed numerous bacilli and cocci and a number of fusospirochætes Baths of 3 per cent neosalvarsan were administered and gauze soaked in the same solution was applied to the lesion After twenty days the secretion was scanty and contained no fusiform bacilli or spirochætes The neosalvarsan treatment was then stopped A complete cure resulted in a short time

In the third case mastoiditis followed chronic suppuration of the ear of several years standing The pus contained among other bacteria streptococci and fusospirochætes Operation revealed mastoiditis of the necrotic type thrombosis of the left lateral and left sigmoid sinuses and soft granulations in the dura mater of the cerebral and cerebellar fossæ The bacteria found in the pus from the mastoid were the same as those in the cavity of the ear The patient died Pus from the left dura mater the right superficial petrous sinus the abscess in the fossa of the cerebellum and a pulmonary metastasis contained a number of fusospirochætes In this case the specific treatment did not destroy the spirochætes as the rapidity of the infectious process did not allow a truly rational treatment However like Salvardori Motta and Barbieri the author has obtained satisfactory results with neosalvarsan in chronic suppurations of the ear in which fuso spirochætes predominated Drenings with neosalvarsan have given good results also in certain forms of mercurial tonsilitis in which the fusospirochætes were present Although spirochætes are seldom found in large numbers in cases with complications they are of importance as they may modify the postoperative course unfavorably The specific treatment aids definitely Without it postoperative healing of the wound requires a considerable time

FLORENCE A CARPENTER

Fonvielle A Case of Hæmorrhage of the Lateral Sinus by Way of the Tympanic Cavity and External Auditory Meatus in the Course of Chronic Suppurative Otitis Media (Un cas d hémorragie du sinus latéral par la caisse et le conduit auditif externe au cours d une otite moyenne chronique suppurée) *Arch internat de laryngol* 1919 xxxv 313

The case reported was that of an adult male who had had a discharge from the left ear in infancy The patient entered the hospital on account of cephalalgia vertigo vomiting a seropurulent and slightly fœtid discharge from the left ear and spontaneous horizontal nystagmus

Examination revealed nearly complete destruction of the tympanum and the presence of granulations in the cavity The mastoid was negative The temperature was 98 6 degrees F and the pulse 68 Lumbar puncture withdrew clear fluid free from bacteria The auricular pus contained an abundant flora

Under treatment the symptoms receded but a month later small hæmorrhages occurred from the external canal The blood was dark and contained small clots The next day the bloody discharge increased but still there was no local symptom in the mastoid

At operation performed under local anæsthesia the cortex was found eburnated and thickened and a vast cavity filled with dark clots was discovered below it When the superficial layers were removed a stream of blood poured out The source of the bleeding was the lateral sinus Nearly the entire mastoid apophysis had been eaten away by the destructive process of chronic otitis so there was a free communication between the antrum and the horizontal groove of the lateral sinus which was prolapsed and denuded for a large part of its circumference Curettage of the fungosities necessitated exeresis of most of the mastoid Laboratory examination of the fungosities was negative

The author has been unable to discover a similar case in the literature A number of cases of ulceration of the carotid in the petrous portion of the temporal bone are reported in otorhinolaryngological text books but in all of them the condition was associated with tuberculosis In the author's case tuberculosis was ruled out by the discharge in infancy the lesions observed at operation the rapidity of the cure and the findings of examination of the fungosities

LORENCE A CARPENTER

De Juan P The Ocular Reflexes Provoked by Pneumatic Aspiration and Compression of the Contents of the Semicircular Canals and the Utricle in the Rabbit (Sur les réflexes oculaires provoqués par l aspiration et la compression pneumatiques du contenu des canaux semi-circulaires et de l utricule chez le lapin) *Arch internat de laryngol* 1929 xxxv 428

The author gives a brief resume of the research that has been done on problems of the labyrinth of the ear beginning with Flourens (1824) who affirmed that the anterior labyrinth is associated with the phenomena of audition while the labyrinth itself the semicircular canals and the maculæ have some relation to the movements of the body and head Brief mention is made of the work of Purkinje Meniere Goltz Mach Brown Breuer and Ewald

In 1902 Breuer advanced the theory now universally accepted of the mechanism of excitation of the ampullar ridges Ewald confirmed Breuer's hypothesis He experimented on pigeons to produce ampullipetal and ampullifugal currents of endolymph He found that the ampullipetal current of the endolymph is more active than the ampullifugal in the horizontal canals Thorval recently repeated this experiment and found that the intensity of the reaction produced by the two currents depends upon the position of the head in space Lorente de Nó called attention to a nystagmus provoked by the currents of perilymph He described an ocular reflex consisting of a brief and violent contraction of all of the muscles of the eye which appears under marked excitation of the semicircular canals and which he thought due to the displacements of the membranous canal which deformed the ampullar ridge

The conclusions which may be drawn from what has been done are as follows

1 The currents of endolymph provoke a nystagmus

The currents of perilymph acting upon the ampullar ridge also provoke a nystagmus

3 Although not positively demonstrated it is possible that displacement of the membranous canal produces a deformation of the ampullar ridge and an alteration in its reflex

The author's experiments were made on the contents of the canal the perilymph the membranous canal and the endolymph The experiments were made on rabbits

The technique consisted in placing the contents of the semicircular canal or the utricle in communication with a chamber of air hermetically sealed A fistula was made in the bony wall of the canal or in the superior external wall of the utricle the air chamber was connected with the syringe by a rubber tube and the alterations of pressure were produced by a piston When the pressure in the syringe was increased the contents of the canal became compressed and an ampullipetal current resulted and when the pressure was decreased an ampullifugal current was produced The fistula was made in the horizontal semicircular canal or in the superior or lateral wall of the utricle by the technique of Lorente de Nó with plugging of the semicircular canals and thermic excitation of the canals

The results showed that any compression or aspiration in the air chamber resulted in ocular movement and that compression generally produced more violent ocular reflexes than aspiration These differences in ocular reaction were distinct with the head in diverse positions Two kinds of ocular movements were apparent (1) nystagmus toward the side operated on after compression and toward the normal side after aspiration and (2) horizontal vertical and rotary deviations of the eye

The plane of the nystagmus was rather oblique When the head occupied a normal position in space it seemed that the plane of the nystagmus approached nearer to that of the canal than in any other position of the head The vertical movements were more distinct when the variation of the pressure was rapid than when it was slow Slow compression produced a vertical movement of the eye

upward and a rotation backward Aspiration was followed by contrary movements Compression produced the maximal effect when the rabbit was in the position of lateral decubitus with the labyrinth operated on upward Aspiration produced the strongest reflex when the animal was lying on the other side The ocular reflexes varied at least in appearance without change of character with varying positions of the head in space When by a strong augmentation of the pressure a violent excitation of the labyrinth was produced it was impossible to divert the direction of the nystagmus immediately by gradual aspirations on the contrary the vertical and rotary deviations of the eye obeyed the variations of pressure even in spite of the violent nystagmus FLORENCE A CARPENTER

Iolvogt L M The Pathogenesis of Cholesteatoma *Arch Otolaryngol* 1929 ix 597

Cholesteatoma begins as an epidermization of the lining of the middle ear cavity—an ingrowth of squamous epithelium from the external canal following destruction of the epithelium of the middle ear The destruction of the epithelium may result from an acute exanthematous otitis or a chronic disease

In the case reported by the author the patient died seven days after spontaneous rupture of the drum The ingrowth of squamous epithelium from the external auditory canal is shown clearly in the photomicrographs of sections of the middle ear and external canal W M LATON M D

Collet and Mayoux Otomastoiditis Due to the Pneumococcus Mucosus (Oto mastoiditis à pneumococcus mucosus) *Arch internat de laryngol* 1929 xxxix 311

A patient thirty six years of age was admitted to the hospital because of violent pains in the head developing in the course of acute otitis in the right ear For eighteen days there had been a discharge from the right ear without pain or fever There was no œdema or puffiness and no pain in the mastoid Horizontal rotary nystagmus and signs of meningitis were present The temperature was 39 degrees C and the pulse 128 Lumbar puncture yielded a thick liquid in which cytological examination revealed endothelial cells lymphocytes and polynuclears in a state of purulent degeneration and culture showed the presence of Pneumococcus Type 3

At operation the mastoid was found very nearly entirely necrotic but almost free from pus except in two large cells near the tip Extensive curettage was done The lateral sinus was blue and supple Between the sinus and the osseous groove there was moderate venous hæmorrhage The dura was found normal No extradural abscess was discovered

Two days later the symptoms of meningitis were accentuated and there was retention of urine On lumbar puncture the cerebrospinal fluid was found to be turbid Death occurred on the following day

In conclusion the author states that rapid extension of the osseous lesions latency of the symptoms and the frequent development of meningitis are characteristic of otomastoiditis caused by the pneumococcus mucosus FLORENCE A CARPENTER

MOUTH

Bernard R Surgical Treatment of Cancers of the Floor of the Mouth Involving the Inferior Maxilla by Partial Resection of the Maxilla (Traitement chirurgical des cancers du plancher de la bouche propagés au maxillaire inférieur par la résection partielle du maxillaire) *J de chir* 1929 xxxiii 302

The author thinks there has been too much of a tendency to substitute radium irradiation for surgery in the treatment of cancer of the floor of the mouth He reports a case operated upon by Morestin s technique He regards rectal anæsthesia induced with ether as the anæsthesia of choice as it does not disturb the pharyngeal reflex but Morestin prefers regional anæsthesia induced by injecting the sub orbital nerves and the lingual and inferior dental nerves on each side at the spine of Spix

The steps of the operation are shown in illustrations An incision is made down the midline from the edge of the lip to the lower edge of the chin and a horizontal branch running in each direction from this making a reversed T The flap of lip and jaw is then turned back on each side the mental nerves being sectioned where they emerge from the maxilla The maxilla is sawed transversely a piece of bone 1 cm high being left along the lower edge It is then sawed vertically at each end of the horizontal incision Morestin emphasizes the importance of having the head in the upright position while this is being done The superficial layer of the floor of the mouth is attached to the resected part of the maxilla while the mylohyoid is attached to the piece that is left One silk suture is passed through the normal part of the tongue and another through the diseased part and the tongue is stretched so that the exact limits of the cancer can be seen and as much of the tissue can be removed as necessary The incision is carried to meet the incision in the floor of the mouth In this way all of the part invaded by the cancer is removed at once The tongue is then reconstructed by suturing transversely It is important to reconstruct as mobile a tongue as possible The mucous membrane and skin are sutured without dressing

In the case reported the author removed the carotid and submaxillary glands which showed invasion To prevent the lip from falling back into the mouth he used a prosthesis Recovery was uneventful The patient was fed for ten days through a nasal sound There was no operative shock

In conclusion the author states that the operation is rapid and not very mutilating and does not open the cellular spaces of the neck The patient is able to eat and speak well and the cosmetic result is relatively good AUDREY G MORGAN M D

Quick D The Treatment of Cancer of the Lip and Mouth *Am J Roentgenol* 1929 xvi 322

The author regards irradiation therapy of cancer especially the application and introduction of radium as a surgical procedure and radium as surgical equipment He emphasizes that the grouping of malignant tumors according to their potential malignancy and consequently according to their sensitivity to irradiation as a basis for treatment is of great importance in cancer of the mouth The more adult the type the more resistant the growth to irradiation and the more embryonic the type the more sensitive the growth to irradiation

In mouth lesions oral hygienic measures should be instituted before any treatment It is questionable whether irradiation should be employed in the presence of marked local mixed infection Before treatment the extraction of infected and jagged teeth is not advisable but after treatment such teeth should be dealt with as soon as the reaction will permit

In the treatment of epidermoid carcinomata of the mouth external irradiation of maximum intensity covering the primary lesion and the lymph node areas of the neck on both sides has been done since 1917 In cases of lesions of more embryonal type external irradiation is usually sufficient to produce complete regression In cases of squamous cell carcinoma showing cellular differentiation external irradiation has not been sufficient and direct implantation of radon in gold capillary tubes with a wall thickness of 0 3 mm has been done Prolonged irradiation is regarded as superior to shorter exposures of greater intensity Gold seed irradiation is considered more or less comparable to the prolonged irradiation with platinum needles advocated by Regaud Surface application within the mouth has no place in the treatment of carcinoma but cancer of the lip may be surrounded on three sides by heavily filtered radium Only in cases of very deeply infiltrating lesions of the lip is direct implantation of radon indicated

In cases of intra oral carcinoma surgery is not employed for direct treatment of the primary growth but secondary surgical procedures are used to remove bone to provide access to the tumor bearing area and for the treatment of bulky fungating masses Bulky infected tumors can be cleaned up quickly by surgical means soon after the maximum effects of irradiation have become apparent When it is necessary to remove tissue from within the mouth an ordinary electrothermic cautery maintaining a uniform degree of heat is employed The lesion is excised with a flat blade instead of being simply burned out

It is believed that extrinsic laryngeal carcinoma is totally inoperable In its treatment with irradiation no essentially new principles are involved In intrinsic carcinoma of the larynx the introduction of filtered radium with a laryngoscope is impracticable when the growth is below the level of the vocal cords In such cases median laryngectomy done after external irradiation permits the direct implantation of gold seeds with greater accuracy This method of approach is very strongly recommended

In cancer of the mouth the treatment of metastasis in the cervical lymph nodes is of greater importance than treatment of the primary growth The protective reactions within the lymph node are increased by the stimulus of irradiation

It is fairly well established that metastatic extension of epidermoid carcinoma occurs by embolism In the early stages in which a single palpable enlarged node is present with its capsule intact dissection of this node is done Routine block dissection is not resorted to All cases receive heavily filtered external irradiation of maximum intensity to both sides of the neck Though X rays of the high voltage type are employed for economical reasons heavily filtered radium is preferable according to clinical observations However the quantity of radium must be equivalent to the roentgen radiation Both radium and roentgen irradiation can be employed over the same area It is believed that roentgen irradiation has a more pronounced effect upon the connective tissue elements and radium is more effective on cellular structures The difference depends apparently upon the difference in the wave length of the two agents

If a palpable node appears during the treatment a complete unilateral neck dissection is done under local anæsthesia Through a modified Bastianelli incision the filtered radon seeds are implanted at any suspicious points within the wound No postoperative irradiation is employed If the metastatic lymph node is inoperable dissection is not attempted but filtered radon seeds are implanted throughout the tumor bearing area and close to the wound

Any lymph node with a perforated capsule and all cases in which metastatic nodes are present on both sides of the neck are considered inoperable and except in rare instances incurable Such lesions are treated by external irradiation alone These remarks apply to squamous cell carcinoma only Metastatic nodes from embryonal types of epidermoid carcinoma are treated with radium alone In general the routine external irradiation to the neck is done within a period of two weeks

Of 2 741 patients with cancer of the lip and mouth who were treated in the period from December 1917 to December 1927 49 per cent are known to be dead and 22 per cent cannot be traced Of 602 others 21 per cent are free from gross evidence of the disease Two hundred and two have been cured for from five to ten years 124 for from three to five years 165 for from one to three years and 111 for less than a year Of 473 patients treated for cancer of the tongue 103 are free from the disease Of these 53 have been cured for more than three years and 32 for more than five years Of 450 patients treated for carcinoma of the tongue with lesions in the neck 186 were without palpable involvement of the nodes at the time of treatment and

remained so Of these 73 are now free from the disease whereas of 161 patients who had palpable nodes on admission to the hospital only 12 are now free from the disease Of 103 who developed palpable nodes after their admission 16 are now free from the disease Of the entire group of 450 patients 101 (22.4 per cent) are now clinically free from gross evidence of the disease a percentage which compares very favorably with the best surgical statistics in operable cases Only 35 per cent of the patients with cancer of the tongue were operable on their admission to the hospital A JAMES LARKIN M D

PHARYNX

Wright A J The Technique of the Use of Radium in Malignant Disease of the Upper Air and Food Passages *J Laryngol & Otol* 1929 xliv 365

As the use of radium in the treatment of malignant diseases of the upper air and food passages presents special problems the author is trying to evolve a satisfactory technique for each anatomical region

In the treatment of nasopharyngeal epitheliomata he embeds radium needles in a cast of the nasopharynx and fixes the cast in place by silk threads brought out through the nasal passages In the pharynx radium is embedded or attached to a dental plate In the treatment of laryngeal growths radium needles are buried after the thyroid and cricoid cartilages have been split and the laryngeal cavity has been opened In cases of retrocricoid growths the thyroid cricoid and upper rings of the trachea are split a submucous removal of the posterior plate of the cricoid is done and radium is placed in the cavity thus formed In the treatment of lesions of the œsophagus radium is placed around a Souttar tube which is then covered by a second rubber tube and left in place to allow feeding

GEORGE R MCALLISTER M D

NECK

Frazier C H and Mosser W B The Effect of Iodine and Thyroid Feeding on the Thyroid Gland *Ann Surg* 1929 lxxxix 849

By experiments on dogs the authors attempted to determine the effect on the thyroid gland of iodine feeding and iodine and thyroid feeding and the end results of iodine feeding after a long period of rest At intervals throughout the experiments portions of the thyroid gland were studied histologically

In agreement with the observations of Marine their findings showed that the ingestion of iodin increases the amount of colloid in the thyroid They demonstrated also that after the prolonged administration of iodine a stage of exhaustion may occur in the thyroid of the normal dog and that this may be followed by partial recovery after a period of rest. The effect of the feeding of desiccated thyroid was uncertain FRANK B BERRY M D

Lahey F H Deductions from 6 700 Goiter Operations *New England J Med* 1929 cc 909

The author recommends the removal of discrete fetal adenomata of the thyroid because of the danger that they may undergo malignant degeneration particularly beneath the capsule He believes that a considerable percentage of cases of thyroid malignancy originated in a benign adenoma

He advocates the removal of any goiter which is unsightly even though it may be producing no symptoms of goiters shown by X ray examination to interfere with the trachea and of tumors of the thyroid which are situated low and tend to become intrathoracic He recommends the removal also of cysts of the thyroid as these have their origin in fetal adenomata and therefore are not harmless

In some cases he finds it best to perform thyroidectomy in two stages removing part of one lobe first and the other lobe six weeks later In the management of exophthalmic goiter Lugol s solution still continues to be the most valuable adjunct

As a moderate toxicity may be converted into a severe and possibly fatal thyroid crisis by any infection early operation is advisable in this condition.

In heart failure complicated by hyperthyroidism the effects of surgery are particularly gratifying

Hyperthyroidism in a patient with diabetes should be treated by thyroidectomy as soon as the disease is definitely present in order that the metabolic balance may be restored to normal as quickly as possible

Pulmonary tuberculosis is not a contra indication to surgery for hyperthyroidism

After every thyroidectomy the author has the specimen immediately examined for parathyroid bodies If they are found they are at once grafted into the belly of the left sternomastoid muscle

EARLE I GREENE M D

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS, CRANIAL NERVES

Comolli A A Stab Wound in the Right Temporal Region with Cerebral Hæmorrhage from a Lesion in the Region Supplied by the Lateral Striate Arteries (Ferita da coltello alla regione temporale destra con emorragia cerebrale da lesione nel campo delle arterie striate laterali) *Arch ital di chir* 1929 xxiii 314

A boy thirteen years of age fell with an open knife in his hand in such a way that the knife entered his right temple He jumped up and pulled the knife out but soon fell to the ground again because he was unable to stand on his left leg He did not lose consciousness When he was carried home it was found that his whole left side was paralyzed The wound bled freely In about two hours vomiting began

On the patient's admission to the hospital the vomiting was continuous He had a left hemiplegia involving the lower facial nerve and muscle spasm of the left arm There was no fever The pulse was 100 Lumbar puncture evacuated a bloody fluid under high pressure The condition of agitation was followed by somnolence Three hours after the injury the temperature had risen to 37 7 degrees C Operation was advised but the parents refused to allow it The vomiting decreased but the temperature rose to 38 8 degrees C the prostration increased movement of the head became difficult and painful opisthotonus developed and a trace of Kernig's sign was noted Lumbar puncture was performed and anti meningococcus serum colloidal metals and hæmostatics were given

A week later the patient was free from fever and the wound was healed but as the paresis persisted the parents finally consented to operation on the advice of Pi ani who made a diagnosis of left hemiplegia from an intracerebral hæmatoma compressing the pyramidal tracts near the internal capsule

Operation was performed fifteen days after the injury In the lower part of the rolandic zone there was a round area without induration in which the brain substance was slightly depressed and showed less resistance to palpation than the rest of the brain In the lower part of this zone there was a knife wound 1½ cm long involving the first and second convolutions A syringe was introduced horizontally to a depth of 4 cm and 6 or 7 c cm of a bloody serous fluid were aspirated The wound was then sutured two capillary drains being left in the lower end of the incision

The child recovered gradually and all of the symptoms disappeared except a slight spastic hemiplegia of the left arm

In order to determine the exact site of the deep cerebral hæmorrhage in this case the author made stab wounds in the brains of cadavers with a knife of the same type The tip of the knife reached the space in which the small lateral striate arteries run Evidently a lateral striate artery had been injured with the formation of a hæmatoma between the external capsule and the lenticular nucleus similar to that which develops in arteriosclerotic cerebral hæmorrhage from the rupture of a miliary aneurism of a lateral striate artery

The author states that the results in this case were good but if the operation had been performed when it was first advised it would probably have prevented the slight contracture of the left arm which persisted AUDREY G MORGAN M D

Sargnon A Case of Cerebral Otitic Abscess of the Temporal Lobe Following Cholesteatoma Cure (Un cas d abcès cérébral otitique du lobe temporal consécutif à un cholesteatome guérison) *Arch internat de laryngol* 1929 xxxv 308

The patient whose case is reported was a woman twenty two years old who as a child had been operated upon for mastoiditis on the left side When she was seen by the author she had suffered for three months from headache intermittent vomiting and occasional chills She had slight mental confusion and loss of memory There was no elevation of the temperature The pulse was regular at 110

At operation Sargnon found a mastoid completely eburnated and with a deep antrum filled by a fœtid cholesteatoma penetrating far into the petrous portion of the bone Exposure of the dura mater revealed a meningeal placque posterior and superior to the antrum the size of a fifty cent piece The condition was clearly a fungous hæmorrhagic pachymeningitis Section of the posterior part of the canal was performed but posterior suture was not done

After the operation the pain and vomiting ceased Daily dressings were necessary on account of the fœtid condition of the wound The patient left the hospital twelve days after the operation

A month later she returned with severe pain throughout the head constant vomiting a pulse of 110 and a temperature of 37 8 degrees C A diagnosis of cerebral abscess was made At operation the lateral sinus was found normal Wide exposure of the dura mater revealed above the antrum at the level of the placque of meningitis just above the mastoid previously operated upon a bulging area where the dura mater could not be raised On puncture about 2½ cm deep a clotted abscess the size of a thimble was found The dura mater was not opened by wide incision but a hæmostatic clamp was passed and a drain was placed to dilate the

intracerebral passage progressively and prevent infection of the meningeal spaces The wound was not sutured Dressings were applied to the surface

The next day the vomiting ceased and the headache was less severe The size of the drains was progressively increased For eight days improvement was constant but the wound remained very fœtid Anti gangrene serum was administered and the dressings were changed daily

Three weeks after the operation the patient was much better In two days the drain was pressed out by the filling up of the walls of the abscess At each dressing the canal was kept open to maintain a window for exploration of the cavity of the operation A month after the second operation the patient was in good condition None of the symptoms had returned but there was a small focus of cholesteatoma This focus was disinfected

The author emphasizes that in cases of this type incision of the meninges should be avoided in order to prevent the opening up of healthy spaces and the production of a secondary infection with resulting meningeal encephalitis Puncture should be done a channeled sound slipped in a small drain introduced and the size of the drain increased from day to day In the early stages the drain should be removed daily FLORENCE A CARPENTER

Martin P Tumors of the Brain and Syphilis *Arch Surg 1929 xviii 1531*

In cases of brain tumor the Wassermann reaction has been of inestimable value but has also led to confusion Positive Wassermann reactions have been obtained in non syphilitic cases in which the protein content of the spinal fluid was increased as in the Froin syndrome and in cases of brain and cord tumor In 1911 Noguchi discovered that a non-specific reaction may occur when the spinal fluid has not been heated to 56 degrees C and that an antigen composed of acetone insoluble lipoids never gives non specific fixation In 1923 Spurling and Maddock concluded that the Wassermann reaction is always negative in cases of tumor of the brain and spinal cord

Martin reports two cases in which anti syphilis treatment was given previous to the diagnosis and operative removal of a brain tumor One of the patients had shown definite improvement under the anti syphilis treatment while the other showed no improvement after several series of injections In the first case the mistake was due to the use of non heated spinal fluid in testing the Wassermann reaction In the second all of the symptoms were erroneously ascribed to syphilis because of the positive Wassermann test The second case demonstrated therefore that lack of improvement under anti syphilis treatment should lead to further search for the cause of the condition

In the presence of syphilis treatment for that condition may be instituted under careful observation but a re examination should be made if the nervous symptoms do not yield

In cases of intracranial neoplasm surgical intervention is the only therapeutic measure to be considered It may be beneficial also in syphilis of the nervous system In a case reported by the author only slight improvement was noted following three series of injections The cerebrospinal fluid obtained by puncture showed 355 cells per cubic millimeter and a positive Wassermann reaction The blood Wassermann test was negative The patient suffered from severe headaches and was finally brought to the hospital in an unconscious condition Decompression gave relief from the headaches and subsequent anti syphilis treatment resulted in cure It appears that the increased intracranial pressure had prevented the proper circulation of the blood at the site of the lesion and that this was responsible for the failure of the anti syphilis treatment previous to the operation It is apparent therefore that decompression may be not only an emergency measure but also a therapeutic measure in cases of cerebral syphilis which do not improve under anti syphilis treatment

The author's conclusions are as follows

1 In cases of tumor of the brain the interpretation of a positive Wassermann reaction requires great care

2 In order that non specific positive reactions may be avoided the test should be made on spinal fluid heated to 50 degrees C or on non heated spinal fluid with non protein trophic antigen (Noguchi Bordet)

3 The presence of an undoubted positive reaction even of the spinal fluid does not necessarily mean that the symptoms of involvement of the nervous system are due to syphilis If anti syphilis treatment is given it should not be continued when the symptoms remain unaltered

4 Routine anti syphilis treatment in cases of tumor of the brain should be abandoned The only treatment should be surgical operation sometimes with the addition of deep roentgen therapy

5 Even in undoubted cases of cerebral syphilis the symptoms may demand surgical relief and in certain cases the operation may favor the action of medical treatment which was previously of no avail

F S HAIT M D

Moniz E Pinto A and Lima A Arterial Encephalography in the Diagnosis of Four Brain Tumors Verified at Operation (La preuve de l'encéphalographie artérielle dans le diagnostic de quatre cas de tumeurs cérébrales opérées *Presse méd* Par 1929 xxvi 500

The authors use arterial encephalography as a routine measure in all cases in which a brain tumor is suspected They have carried it out seventy times and have never had an accident from the procedure

In the first of the four cases reported in this article hemihyposthesia and hemiparesis were present on the right side There were no symptoms attributable to the frontal lobe Visual disturbances were more marked on the right side than on

the left Encephalography indicated a tumor of the rolandic region on the left side involving especially the posterior part of the frontal lobe The sylvian group of blood vessels was displaced downward in the anterior and middle portions The posterior part occupied its normal position Only two vessels of thi group were visible It was evident there fore that the tumor was situated low enough to exert strong pressure on the vessels at their origin

At operation a horseshoe shaped incision of the left frontoparietal region was made and the dura opened Anteriorly and deep down a tumor was discovered extending toward the anterior and deep part of the frontal lobe On its removal it was found to weigh 50 gm and to measure 6 5 by 6 0 by 6 0 cm It was a spindle cell sarcoma

In the second case encephalography showed nor mal location of the arteries on the right side The picture was remarkable as it revealed the vessels of both the sylvian group and the anterior cerebrum which are rarely seen because of the anterior com munication This suggested compression on the left side or directly on the communication which pre vented the entrance of blood from the other hemi sphere Arteriography of the left side showed almost perpendicular upward displacement of the sylvian group of vessel A diagnosis of tumor of the ante rior part of the temporal lobe was made The ex amination revealed also an opaque spot in the posterior part of the displaced ascending portion of the sylvian group and small arteries branching off from the internal carotid and running in the direc tion of this spot A similar spot was seen in the anterior part of the sylvian group These spots were interpreted as due to impregnation with the sodium iodide of a special tissue which did not permit a rapid return circulation Such a finding is decisive evidence of meningioma The diagnosis was a large tumor of the left temporal region extending to the postero inferior part of the frontal lobe compressing the peduncle the central nuclei, and the structures of the base of the brain where it was probably im planted and reaching as far as the posterior clinoid apophysis Autopsy verified the diagnosis in all particulars The symptoms in this case at first suggested epidemic encephalitis

In Case 3 a sudden and considerable elevation of the sylvian group of vessels on the right side led to a tentative diagnosis of meningioma The tumor turned out to be a cyst containing 10 c cm of fluid Neurological diagnosis had been impossible The location of the lesion could be determined only by means of encephalography

In the fourth case al o the neurological examina tion was of no assistance in locating the disturbance Encephalography revealed on the left side a sudden elevation of the sylvian group of vessels about 3 cm above their normal location The posterior temporal artery descended rapidly to its normal position while the sylvian artery remained elevated On the right side the origin of the sylvian group was slightly elevated The diagnosis was probable tumor at the level of the anterior part of the left temporal lobe deep probably implanted in the base of the brain (meningioma?) extending to or even a little beyond the median line At operation this diagnosis was confirmed in all particulars except that the tumor was a tuberculoma

The article is illustrated with encephalograms and photographs of the gross specimens in the four cases

FLORENCE A CARPENTER

Eisenhardt L The Operative Mortality in a Series of Intracranial Tumors *Arch Surg* 1929 xviii 1927

The purpose of this article is to give the computed mortality percentages of operations for intracranial tumors performed at the Peter Bent Brigham Hospital Boston Tumors were considered verified only after microscopic examination at operation or autopsy except that presumably gliomatous cysts were considered as verified on the basis of their xanthochromatic fluid content a conclusion recently shown to be unjustified since xanthochromatic fluid is equally characteristic of cerebellar cysts of angio blastic origin (Cushing and Bailey 1928) The cases of unverified tumors included those in which although biopsy was not done clinical examination left no doubt as to the presence of a tumor the growth in some instances having been exposed To this group belonged tuberculomata highly vascular lesions multiple and metastatic lesions and sta tionary lesions such as cortical gliomata undergoing calcification or inaccessible tumors in the cranio pharyngeal pouch Suspected cases of tumor in cluding those proved to be some other condition and those open to doubt are not included in the report

All major procedures are considered as operations Such procedures include (1) exploration with partial or total extirpation of the tumor (2) negative ex ploration with or without decompression (3) re elevation of bone flaps for the relief of postoperative complications and (4) simple decompression for the relief of pressure as a temporizing measure The postoperative deaths include all deaths occurring in the hospital regardless of the elapsed time even though they may have been definitely attributable to some cause other than the operation

A total of 1 426 operations performed in the period from May 1 1922 to January 1 1929 are included in this report The cases in which they were performed constituted more than half of the 2 716 cases on record at the hospital During the past six years about 215 patients have been ad mitted or re admitted annually with tumor verified or unverified and about 210 operations have been performed each year

The mortality percentages show a steady improve ment in spite of the fact that more difficult and radical operations are now being performed In the year 1922–1923 the total mortality was 19 3 per cent and the operative mortality 14 7 per cent whereas in the period from May 1928 to January 1929 the

total mortality was 12 6 per cent and the operative mortality 9 7 per cent In the year 1927–19 8 there was a temporary increase due to the use of electro surgical methods in re admitted cases which had formerly been considered inoperable because the tumors were inacce sible or extremely vascular

That the experience of the surgeon is an important factor is hardly to be doubted The mortality in cases treated at the Johns Hopkins Hospital Balti more in the period of fifteen years just prior to 1913 and the mortality in cases treated at the Peter Bent Brigham Ho pital in approximately the following fifteen years are compared In the former the total mortality was 24 7 per cent and the operative mor tality 17 5 per cent In the latter the total mor tality was 16 2 per cent and the operative mortal ity 11 7 per cent

The histological nature of the tumor is also of great importance The mortality is highest in cases of granulomatous tumors this being due to the frequency with which the removal of a cerebellar tuberculoma is followed in a few weeks by tuber culous meningitis The operative mortalities in cases of various types of tumors are as follows

T m	Oper t mo t l y P e t
Gliomata (varia)	19 4
Adenomata (chiefly pituitary)	6 2
Meningiomata	11 4
Neurinomata (acoustic)	12 7
Congenital tumors (chiefly craniopharyngeal)	1 4
Metastatic and invasive tumors	20 0
Granulomatous tumors	28 8
I lood vessel tumors	7 6
Papillomata	15 7
Miscellaneous tumors	11 7

Accurate pre operative localizing diagno i is im portant because of the high mortality associated with misdirected explorations Lehmann has found the mortality especially high when suboc ipital ex plorations are performed for tumors above the tentorium The situation of the tumor al o in fluences the results A suboccipital procedure is considered more dangerous than an operation for a tumor above the tentorium

Although in many instances the condition is far advanced when the patient enters the hospital the number of such cases is smaller than formerly and the earlier diagnosis must have a bearing on the very considerable reduction in the mortality

The extreme precautions taken again t accident have also aided in reducing the operative mortality to a figure closely approximating 10 per cent It is seldom that more than one major operation i scheduled for the same day Most of the operations are done entirely under local anæsthesia and all are begun under this type of anæsthesia Patients are not removed from the operating suite until the danger of the formation of an extradural clot has passed After critical cerebellar operations patients are usually left on the table for several hours and often they are not removed from the operatin suite for several days

Infections are almost unknown and death on the operating table is rare As extreme care is taken in the closure of the galea there has been no post operative fungus cerebri in the time covered by the records reviewed The greater number of obvious postoperative deaths has been due to increasing pressure when no tumor has been found a rapid recurrence of symptoms after cerebral œdema hyperthermia particularly in young children with marked secondary hydrocephalus and overlooked postoperative hematomata

The mortality figures are affected also by the fact that patients with recurring tumors are oper ated on repeatedly and in such cases postoperative death is ultimately inevitable

Every effort is made to keep in touch with the patients and their physicians in order that the tumors may eventually be verified The record of the pathological department show that the percent age of autopsies is higher on the neurosurgical service than in the other departments of the hospital

E S Platt M D

Rimini E Meningitis Originating in the Laby rinth a Case Cured by Operation (*La méningite labyrinthogène un cas op ré et gu ri*) *Arch i t r nal de laryngol* 1929 xxx 262

A man twenty six years of age who had had chronic suppurative otitis on the left side for five years and a polyp obstructing the external auditory canal developed severe occipital and frontal head ache with vertigo paraly i of the left facial nerve horizontal rotatory nystagmus which at fir t was toward the normal side and later bilateral fever pain on pressure in the left mastoid region tender ness of the muscles of the back of the neck and a tendency toward Kerni s sign The pinal fluid obtained by lumbar puncture was turbid and con tained 1 280 cell per cubic millimeter among which were many polymorphonuclears The Apelt Pandy test was negative Cultures yielded a gram positive diplococcus The patient vomited twice and pa sed sleepless nights

At radical operation performed about a week after the onset of the headache a cholesteatoma was found in the epitympanum and antral cavity After the operation the headache lessened but the temperature remained high Four days later the middle and posterior cranial fossæ were exposed and a search for cerebral abscess was made by puncture As thi search was fruitless the labyrinth was trephined and the bone extending toward the ex ternal and posterior semicircular canals connecting with the vestibule by its posterior surface was cleaned out The headache again decreased the vomiting ceased and the temperature became sub febrile with occasional elevations to 38 4 degrees C

Eleven days after the second operation pain de veloped in the dorsal and acral regions and the

temperature rose to 39 degrees C and remained at that level for the next ten days The patient slept only when under the influence of morphine A number of lumbar punctures were done and uro tropin was given intravenously As cultures of the cerebrospinal fluid yielded a gram positive st epto coccus anti streptococcus serum was injected into the spinal canal The number of cells in the cerebro spinal fluid increased to 9 440 per cubic millimeter Polymorphonuclears predominated

Thirty nine days after the second operation the temperature was normal and the pain in the head and back had ceased Nineteen days later the patient left the hospital entirely cured

In the author s opinion the surgical procedure on the labyrinth contributed most to the cure It is difficult he says to determine the effect of the re peated lumbar punctures the intraspinal injection of anti streptococcus serum and the intravenous injections of urotropin As regards the indication for the labyrinthine operation he states that it must be determined on the basis of the findings in the particular case without too much attention to gen eral rules He believes that the intervention is indicated even in so called precocious labyrinthitis secondary to acute otitis if examination reveals complete abolition of function in both labyrinths

FLORENCE A CARPENTER

SPINAL CORD AND ITS COVERINGS

Heuer G J The So Called Hour Glass Tumors of the Spine *Arch Surg* 1929 xviii 935

Hour glass tumors of the spine are comparatively rare They may develop at any level and from any of the constituent tissues of the pine Whether they originate intraspinally or paravertebrally they ex tend through an intervertebral foramen to form an adjoining tumor this accounting for their shape Frankly malignant tumors such as sarcoma and metastatic carcinoma are not considered by the author

In a review of the literature Heuer found about eighty cases of hour glass tumor of the spine of which sixty four were satisfactorily proved

The structure of these tumors is fairly definite but varies according to the tissue from which the neoplasms originated In the majority of cases there was a complete cure or absence of recurrence after a long period The tumors were therefore judged to be of neurogenic origin or at least benign Grouped according to region about 28 per cent were cervical 58 per cent dorsal 13 per cent lumbo sacral and 1 per cent multiple

In the cervical region the tumors were almost in variably encapsulated and benign The paraverte bral tumors showed a greater variation in size than the intraspinal tumors which were confined in more limited space and most of which presented in the neck

In the dorsal region the majority of the tumors were both intraspinal and paravertebral and most of them presented in the mediastinum In prac tically every case there was compression of the cord In every case but one the tumor was encapsulated and benign

One half of the tumors occurring in the lumbo sacral region were classed as malignant although they were circumscribed and there was no invasion

Recognition of the nature of the tumors has been rare before operation or autopsy In all cases in which a tumor of the cord is suspected a thorough examination should be made of the adjacent areas

The treatment which was formerly conservative is now surgical and the results are better The operation should be done in one or two stages de pending upon the situation of the neoplasm The primary attack should be directed to the spinal tumor Frequently both tumors can be removed through one incision In the cervical region it may be safer to make two separate incisions In the lumbar region an intra abdominal approach may be indicated

Of the sixty four cases reported forty six were operated upon Sixty five per cent of the patients recovered and 19 per cent died Of those who re covered the cord symptoms were relieved in 76 per cent In the cases in which the late results are known the period of survival varied from twelve years to four months

The author gives abstracts of the sixty four case histories which include the twenty three reported by Antoni in 1920 and three of his own

ALBERT S CRAWFORD M D

Beck C S The Relief of Intractable Pain by Sec tion of the Anterolateral Columns of the Spinal Cord (Chordotomy) *Ohio State M J* 1929 xxv 455

Beck adds three more cases to the rapidly growing number of those in which section of the anterolateral tracts of the spinal cord (chordotomy) has been done for intractable pain In one of his cases practically complete relief of the pain was obtained but in the two others the relief was only partial

LEO M DAVIDOFF M D

PERIPHERAL NERVES

Frankenthal L The Regeneration and Surgery of Injured Sensory Nerves (Die Regeneration und Chirurgie verletzter sensibler Nerven) *Chirurg* 1929 i 218

The author made experimental and histological studies of puncture injuries of nerves from the stand point of regeneration The experiments were car ried out on the sciatic nerve of the rabbit A series of photomicrographs shows the considerable degen erative changes and regenerative processes which occur after a nerve has been injured by even a fine needle

Stoffel s theory that it is possible to dissect apart the sensory and motor portions of mixed nerves is disputed by Frankenthal

Sensory disturbances justify suture or resection only in very rare cases since as a rule they clear up spontaneously Neurolysis however is often necessitated by pain

According to reports in the literature the results of heterotransplantation homotransplantation and autotransplantation have not been very satisfactory *nerve decussation has proved better* For sensory nerves Frankenthal does not advise neurolysis Prolonged blocking of sensory nerves is best done with 80 per cent alcohol For the blocking of mixed nerves Lavrs pepsin Regisolution is recommended the aim being to obtain temporary interruption of conduction Nerves may be severely injured by touching them with forceps or temporarily tying them with a suture PEIPER (Z)

SYMPATHETIC NERVES

Adson A W and Brown G E The Treatment of Raynaud s Disease by Resection of the Upper Thoracic and Lumbar Sympathetic Ganglia and Trunks *Surg Gynec & Obst* 1929 xlviii 577

In five cases of vasomotor neurosis of the spastic type with symptoms (Raynaud s disease) there was *marked and maintained vasodilatation in the feet* for periods as long as three years following operation Vasomotor activity as measured by the surface temperature was absent or much diminished with entire relief from signs and symptoms of the disease

Cervical sympathetic ganglionectomy by the anterior approach carried out in two cases of Raynaud s disease of the hands was unsuccessful in producing vasodilatation or in ameliorating the signs or symptoms

Intrathoracic sympathetic ganglionectomy by the dorsal approach was successful in two cases of Raynaud s disease affecting the hands producing dilating effects on the arteries of the hands comparable to that observed in the feet following the lumbar operation

The striking maintained and unequivocal therapeutic effects of lumbar and dorsal sympathetic ganglionectomy in Raynaud s disease seem to warrant the belief that surgical control in this disease is an accomplished fact

MISCELLANEOUS

Bremer F The Tonus and Contracture of Skeletal Muscles *Arch Surg* 1929 xviii 1463

Bremer briefly reviews the theories concerning muscle tone discounting the view advanced a few years ago by Hunter that it depends upon a separate mechanism innervated by the sympathetic or parasympathetic system He agrees with Sherrington s school that it is essentially similar to phasic contraction of muscles and depends upon proprioceptive essentially myotatic and postural reflexes

Tonus possesses a striking sensibility to various central and peripheral conditions which do not at the same time affect phasic contraction Moreover skeletal muscles possess besides a quick contractility a slower contractility which is allied to that of smooth muscle although it has nothing to do with tone

In experiments on decerebrate cats Bremer and Tilctea found that by the injection of small quantities of curare the extensor rigidity could be made to disappear without affecting the activity of the spinal and bulbar reflexes In experiments on rabbits in which local tetanus was induced by the injection of tetanus toxin into the muscles of a hind leg Bremer found that the tetanus could be overcome by the subcutaneous injection of curare without affecting the normal motricity Unfortunately this treatment is unsafe in cases of human tetanus Normal tonus is not so markedly affected as these two pathological types of hypertonia Since ergotamine and atropine the classical paralyzing alkaloids of the sympathetic and parasympathetic neuromuscular junctions have no effect on tonus the author concludes that the explanation cannot rest upon a hypothetical sympathetic or parasympathetic innervation of the motor end plates concerned in the phenomenon of tonus

Bremer believes that light curarization blocks the *impulses producing tonus which in his opinion* have smaller amplitude and higher frequency than those producing phasic contraction and does not disturb the latter

The author was able to show a directly antagonistic reaction of epinephrin upon the curare effect on the tonus of decerebrate cats This he regards as an indirect indication of a sympathetic muscular innervation of skeletal muscles and its trophic restoring function

The admission of the tetanic nature of tonic innervation does not in itself exclude the possibility of a contractile duality of the skeletal muscle of vertebrates The slow secondary contraction described as a neuromuscular contraction affords new evidence of the existence of a slow contractile mechanism in the skeletal muscles of amphibians moreover it shows the possibility of the activation of this mechanism by nervous impulses The condition determining neuromuscular contracture is an appropriate summation of motor nervous impulses The heterochronism between the slow contractile mechanism and ordinary muscle contractions may explain the necessity of this summation The function of the slower mechanism in amphibians and birds is not known exactly but it is not the physiological substratum of tone It is probably homologous to contractures in Thomsen s disease and other myopathic conditions

The opportunity afforded by the study of neuromuscular contracture in frog to examine quantitatively the phenomenon of summation of impulses and thereby gain an insight into the mechanism of neuromuscular transmission led the author to accept the theory of the direct stimulation of the skeletal muscle fibers by the action currents of the nerve fibers LEO M DAVIDOFF MD

Davis L Muscle Tone in Decerebrate Rigidity
Arch Surg 1929 xviii 1687

Davis reviews the latest theories regarding tonus and discusses them on the basis of decerebrate preparation

It has been found that the pattern of rigidity following decerebration depends upon the level of section of the brain stem and the influence of other reflex activities In decerebrate animals in which the labyrinth has been destroyed lasting patterns of rigidity in flexion occur and are unaffected by removal of the cerebellum Animals decerebrated at a relatively high level show normally distributed tone and patterns of rigidity in extension and flexion crawling climbing and springing Removal of the cerebellum does not affect the pattern or degree of these activities

The cerebellum inhibits the tonic labyrinthine reflexes and in a decerebrate animal its removal permits the regular and forceful occurrence of rhythmic reflexes Tonic labyrinthine reflexes produce a change in the physical property of muscle which permits the muscle to be purely mechanically stretched while other reflex adaptations occur

It was found that muscle tone may be produced by reflexes other than stretching

LEO M DAVIDOFF M D

Schaltenbrand G Muscle Tone in Man *Arch Surg* 1929 xviii 184

Schaltenbrand has devised a machine by which he is able to measure and permanently record the stretch reflex and lengthening reaction in human muscles He causes passive movements in the elbow or the knee joint and obtains a permanent record of the difference of tension between the flexors and extensors of these joints

From studies of the differences between classic spasm as exhibited in spastic paresis and classic rigidity as exhibited in Parkinson s disease he concludes that typical spasm is like a spring in its effort to fix a special posture whereas rigidity resembles a brake in that it fixes every posture induced passively He therefore differentiates three functions of the same tissue—movement balancing of posture and braking movements

ERIC OLDBERG M D

Towne E B Experimental Diabetes Insipidus
Arch Surg 1929 xviii 1165

The purpose of the author s study was to determine whether diabetes insipidus which is clinically associated with tumors involving the hypophysis and the floor of the third ventricle is due to a disturbance of the function of the gland or to injury of nerve centers in the floor of the ventricle

Experimental diabetes insipidus lasting for a few days or weeks may be produced by a number of procedures but reliable conclusions cannot be drawn from such experiments In the four experimental observations on record in which the polyuria persisted over four months there was partial or complete division of the pituitary stalk

The cells of the pars tuberalis on the base of the brain have been a stumbling block in the experimental surgery of the pituitary gland All except Handelsmann and Horsley have ignored their possible physiological significance

In investigations on dogs the author studied the cells of the pars tuberalis after division of the stalk The stalk was completely divided in ten dogs by the temporal route In five the cells of the pars tuberalis were not detached but in only one of the other five was the operation successful in removing all of the cells The six dogs which survived had a temporary polyuria When the polyuria had terminated they were killed with chloroform the brain was hardened *in situ* and serial sections were made of the portion to be studied

The polyurias which were quite marked terminated in from four to twenty one weeks Their average duration was nine weeks Serial sections in the cases of the five dogs in which the cells of the pars tuberalis were not detached showed nests of apparently active cells above the scar and varying numbers of eosinophilic cells typical of the pars anterior In the one experiment in which all of the cells of the pars tuberalis were successfully detached the gland had re united to the base of the brain and the cells of the pars intermedia had invaded down to the ependyma

In another series of experiments the entire gland including the pars tuberalis was removed and fragments of the pars anterior pars intermedia and pars tuberalis were transplanted to the cerebral cortex If a polyuria had resulted and then ceased it was planned to watch the effect on the urinary output of removal of the transplants one at a time None of the animals lived

In conclusion the author states that the findings of his experiments and an analysis of previously recorded lasting polyurias do not support the neurogenic theory of Camus and Roussy but strongly suggest that diabetes insipidus is due to suppression of the secretion of the pars intermedia and the pars tuberalis

ALBERT S CRAWFORD M D

SURGERY OF THE CHEST

TRACHEA LUNGS AND PLEURA

Bonnamour and Badolle Roentgenography of the Normal Lung After the Injection of Lipiodol and the Diagnosis of Small Bronchial Dilatations (La radiographie du poumon normal après l injection de lipiodol et le diagnostic des petites dilatations bronchiques) *Presse méd* Par 1919 xxvii 173

The authors have been examining the roentgenograms made after the injection of lipiodol in cases treated for non thoracic diseases ever since lipiodol has been used in this way They emphasize that to obtain correct roentgenograms the technique must be kept strictly uniform The injection must be made by a specialist accustomed to anæsthesia of the larynx The amount of lipiodol chosen as most favorable is 30 c cm Any roentgenogram showing that a portion of the solution has passed into the digestive tract is to be rejected If teleroentgenography cannot be obtained the anticathode film distance should never be less than 90 cm or 1 m The distance adopted should be kept constant The exposure should be instantaneous to one eighth of a second The picture should be taken at the end of inspiration so that the sinuses will be in evidence Only one side of the thorax should be injected at one operation and on this side the injection should be made from the base to the hilum It is dangerous to interpret effects any higher and effects on the opposite side if some of the fluid penetrates that far

Roentgenography in the first quarter of an hour following the injection with sufficient delay for the lipiodol to descend and diffuse and early enough for absence of efforts at coughing will be characterized by two features (1) almost complete absence of bronchial tracery below the hilum and (2) fine and regular markings of the alveoli resembling the foliage of a tree When the muscular and elastic fibers of the bronchial walls are healthy to their finest extremities the lipiodol is driven rapidly toward the exterior or toward the alveoli and five minutes after the injection none of it is left in the alveoli A bronchus which remains full and hence visible in the roentgenogram is diseased

In a large number of roentgenograms made of autopsy specimens of normal lung the authors found that the largest diameter in the stem was 11 mm In the secondary trunks it was between 3 and 4 mm. when 100 c cm of lipiodol was used and from 2 to 3 mm when 30 c cm of lipiodol was injected In the living secondary bronchi measuring 5 6 and 7 mm and tertiaries measuring from 1½ to 2 mm have often been seen Lumina should be considered enlarged which in the secondary bronchi exceed 4 mm and in the tertiary bronchi exceed 3 mm

Besides the dead tree appearance of generalized dilatation there is the dead branch type in which one enlarged tract is isolated in the midst of a clear spot where the foliage has disappeared The localized absence of foliage marking should lead to measurement of the branch It will nearly always be found dilated Sometimes the termination of the bronchiole is blunt A normal bronchiole always tapers off gradually The picture of the hemithorax should be examined sector by sector very carefully and in doubtful cases should be compared with the same sector in another roentgenogram Pace.

Scarff J E The Experimental Production of Pulmonary Abscess Etiological Factors *Arch Surg* 1929 xviii 1960

The relationship of chronic infection of the upper respiratory tract to the development of pulmonary abscess is of great clinical importance and experimental interest The recent work in Cutler's laboratory demonstrating that lung abscesses may be caused by embolic processes does not prove that all abscesses of the lung arise in this way In 1923 Kline produced small localized areas of pulmonary gangrene in rabbits by the intratracheal injection of material obtained from the mouth and teeth of a man who had died of pulmonary gangrene In 1927 Smith reported the production of pulmonary abscesses in mice and rabbits after the introduction of scrapings from pyorrhœal cavities in man but he was unable to reproduce the lesions in dogs Also in 1927 Crowe and Scarff reported the formation of lung abscesses in dogs as the result of the introduction into the bronchi of cotton pledgets inoculated with pus from chronic suppuration produced experimentally in the sinuses of dogs and of infected material from pyorrhœal cavities in man In 1928 Allen reported evidence of beginning cavity formation in dogs following the intratracheal insufflation of pus from lung abscesses in human beings and ligation of the bronchus leading to the lung

Over fifty experiments were carried out by the following method without producing an abscess

1 *Bronchoscopic methods* These procedures included simple destruction of tissue by the use of the electrocautery and acid (prompt healing) the introduction in a bronchus of cotton inoculated with various organisms (no abscess or distemper) and the introduction into a bronchus of a nut (generalized bronchitis and death from bronchopneumonia)

2 *Transpleural experiments* These included simple destruction of tissue by the injection of 1 c cm of boiling water into a lobe the introduction into the lung tissue of Pneumococcus Type I or streptococcus hæmolyticus tissue destruction by the injection of 1 c cm of boiling water followed in

twenty minutes by the introduction of various organisms through the same needle and tissue destruction followed by the introduction through small intercostal incisions of small metal foreign bodies followed after two or three weeks by the introduction of various organisms through a long needle under fluoroscopic guidance (metal encapsulated in scar tissue without evidence of active inflammation or cavity formation)

These experiments having been unsuccessful an attempt was made to produce pulmonary abscesses with organisms obtained from chronic sinus infections In a series of eight dogs the frontal sinuses were opened foreign bodies were introduced and the wounds were then closed After about two weeks infectious material consisting of scrapings from pyorrhœal cavities were introduced In all of the animal acute sinusitis developed with the establishment of drainage through the operative wound which persisted for as long as three or four months After from four to six weeks of suppuration a small pledget of cotton inoculated with pus from the sinus was introduced into a secondary bronchus In the cases of five of the dogs the clinical picture of lung abscess developed and necropsy revealed an acute process limited to one lobe necrosis of tissue liquefaction and cavity formation Death was due to extension of the cavity to the edge of the lung and perforation into the pleural cavity Bacteriological examination showed that there were present the same mixture of organisms in the sinuses as in the lungs and pleural fluid

The production of pulmonary abscesses in five of eight dogs by this method indicated that the chronically suppurating frontal sinuses contributed in some way to the formation of the lesions Four factors that may have been of importance were (1) the effect of the chronic sinusitis in reducing the resistance of the host to new bacterial invaders (2) the effect of the chronic suppuration in increasing the virulence of the organism for the host (3) the action of the spirochætes and (4) the partial or complete plugging of the bronchus by the cotton used to carry the organisms

The results of further experiments on dogs to determine the relative value of these factors are summarized as follows

1 The chronic suppuration exerted an essential effect only on the invading organism and not on the host

2 Bronchial inoculation with fresh cultures of staphylococcus aureus produced marked congestion and consolidation without cavity formation or a fatal outcome

3 Bronchial inoculation with staphylococcus aureus after incubation in a frontal sinus produced abscesses in four of six normal dogs

4 In no case was a pure culture of staphylococcus aureus recovered from the lung or pleural cavity but the cultures closely resembled those in the original group of abscesses except that no spirochætes were found

5 In each of the sinuses that had been inoculated with a pure culture of the staphylococcus there was a mixed infection showing the same organisms as were recovered from the lungs

6 These mixed infections were many times more powerful in causing abscesses than the original pure strains but it was not apparent whether the increased infectiousness was caused by just one organism or by the combination of all of those present

7 The repeated presence of anaerobic bacteria in both the lung and the sinuses seemed significant especially as Lambert and Miller reported that in eight of ten cases of pulmonary abscess in man they recovered anaerobic organisms only

8 Spirochætal infection was not an essential factor in the production of acute abscesses but it may have had some effect on the chronicity of the lesions (Kline Tunnicliff)

9 Bronchial obstruction was of great importance in the production of pulmonary abscess by aspiration in dogs When the plug inoculated with pathogenic organisms remained in place after the fourth or fifth day an abscess resulted whereas when the plug was coughed out before that time there was marked improvement within twenty four hours followed by rapid recovery The lesions which followed obstruction appeared to be true postoperative atelectases resembling closely the analogous condition in man (Coryllos and Birnbaum contend that postoperative massive collapse of the lung is always the result of bronchial obstruction) There seemed to be a close relationship between postoperative massive atelectasis and postoperative pulmonary abscess formation in the dogs The results of obstruction of the bronchus by a plug depended upon two factors the pathogenicity of the organisms and the extent of the obstruction When the plug was coughed out within two or three days the lesion rapidly cleared up regardless of the infective organisms When the plug was sterile atelectasis with fibrosis and shrinkage of the lung persisted indefinitely Purely pyogenic organisms produced a low grade pneumonitis similar to lobar pneumonia Putrefactive organisms or those tending to produce liquefaction and cavitation caused the development of lung abscess if they were allowed to remain for a sufficient length of time

10 Chronic infections about decaying teeth and diseased gums were also found to have a special tendency to produce pulmonary abscesses in dogs

11 Regardless of the organisms introduced bronchial obstruction was essential in the production of abscess in the dog F S Platt M D

Fishberg M and Rubin E H Carcinomatous Abscess of the Lung *Am J M Sc* 1929 clxxviii 20

The authors report fifteen cases of primary cancer of the lung in which cavities were found on clinical examination and at autopsy They state that cavities are formed in about one third of cases of neoplastic disease of the lung Pulmonary carcinoma

with cavities often produces the symptoms physical signs and roentgen signs that are typical of pulmonary abscess Therefore in all cases of suspected primary abscess of the lung of recent onset in elderly persons the possibility of a broken down neoplasm should be borne in mind

J FRANK DOUGHTY M D

Sauvé The Treatment of Purulent Pleurisy (A propos du traitement des pleuresies purulentes) *Bull et mém Soc nat de chir* 1929 lv 201

The author wishes to report his experiences in twenty eight operations for purulent pleurisy in debate with Grégoire who reported twenty such operations Sauvé agrees with Gregoire as to the necessity for strictly local anæsthesia a limited and careful thoracotomy at the lowest point and especially of drainage in the closed thorax by a method which prevents the re entrance of air into the pleura As he considers Grégoire s technique for this drainage complex he prefers the Delbet Girode siphonage procedure

In Sauvé s twenty eight cases there were four deaths and three postoperative fistulæ Two of the fistulæ were closed by a subsequent plastic operation but one patient with fistula died after two months from pulmonary tuberculosis The average duration of treatment was forty days A woman aged eighty four years recovered in eighteen days without a fistula In one of the fatal cases there was gonorrhœal septicæmia with multiple metastatic abscesses and bilateral empyema

Sauvé attributes his favorable results not only to the operative procedure but also to the preoperative and postoperative treatment He states that operation must not be done too early in purulent pleurisy While the subjacent pulmonary lesions are in evolution the patient does not well support the shock of the establishment of pneumothorax In the cases of infants vaccination and evacuation by puncture are indicated until the operation which should be very conservative can be performed successfully Roentgen examination is of assistance in fixing the time of operation The presence of streptococci or anaerobes should hasten the operation whereas when only pneumococci are found longer delay is possible

Thoracotomy must be done at the most dependent point This can be found by roentgen examination prior to operation and by exploratory punctures at different levels at the beginning of operation Punctures made the day before are not reliable

The author makes a horizontal incision in the back passing through the lowest positive puncture site and on the same level with the diaphragmatic floor He resects a fragment of rib of such size that a non perforated drain may be introduced and sutures the pleura muscles and skin exactly around the drain so as to make a hermetic closure The drain communicates through a glass fitting with a tube resting in a beaker of weak potassium permanganate solution Gregoire says that this procedure is insufficient but the author maintains that the muscle and pleural sutures hold very well and if they yield the yielding occurs so late that the accident is not dangerous

The drain should not be removed until it is found by roentgen examination that the infected pleural cavity has disappeared and the lung has returned completely to the wall By following this rule it is possible to avoid fistula formation if the thoracotomy was performed at the lowest point Respiratory gymnastics with blocked expiration permit the lung to be distended by air coming from the healthy lung through the tracheal bifurcation and thus to return gradually to the wall With Escher s apparatus the progressive augmentation of the respiratory capacity and the return of the lung can be measured In gangrenous pleurisy Sauvé use serum from the Pasteur Institute PACE

HEART AND PERICARDUM

Powers J H The Experimental Production of Mitral Stenosis *Arch Surg* 1929 xviii 194

The purpose of the experiments reported in this article was to produce a chronic sclerosing lesion of the mitral valve in dogs as a primary step in the experimental study of the surgical treatment of mitral stenosis Cutler demonstrated that mitral insufficiency is well tolerated by previously normal dogs but as he was unable to perform the operation on animals with stenosis he was unable to determine whether or not the abrupt change from stenosis into stenosis with insufficiency could be similarly tolerated In two clinical cases one treated by Cutler and the other by Pribram in which a segment of the valve was excised the operation was successful but death resulted from pulmonary congestion and cardiac failure

Attempts have been made to produce mitral stenosis by placing pursestring sutures around the base of the mitral valve (Cushing and Branch) by the use of silver wire (Bernheim) by suturing the leaflets under direct vision (Carrell and Tuffier) and by plication and radium irradiation (Cutler Levine and Beck)

The contracted fibrosed and often calcareous orifice of mitral stenosis is the result of long standing irritation in the leaflets and in the ring at their base Vegetative lesions can be engrafted only on primarily injured endocardium In an effort to produce chronic irritation of the mitral valve in dogs two procedures were used (1) traumatization of the valve by electrosurgical measures and (2) intravenous inoculation with cultures of streptococcus For the electrocoagulation of the valve a portable diathermy apparatus producing a bipolar current of high frequency was employed After exposure and incision of the heart the insulated electrode was introduced into the cavity of the ventricle By invagination of the auricular wall with the left forefinger the tip of the electrode was localized in the mitral orifice and placed on the under surface of the valve leaflet at its junction with the mitral ring The valve was

then traumatized with the electrical current On the second postoperative day intravenous inoculation was done with from 30 to 50 c cm of a twenty four hour broth culture of streptococci and on the fourth day a second injection of 70 to 100 c cm of the culture was given Two days later a blood culture was taken Injections were given also to normal animals for controls Two strains of streptococci were used a streptococcus viridans from the myocardium of a child who had died of rheumatic fever and the streptococcus cardio arthritidis of Small

During the operation an effort was made to create as much valvular damage as could be tolerated The leaflets were charred and puckered with the production of mitral regurgitation and a systolic murmur Too severe regurgitation caused gradual dilatation of the heart and cardiac failure In a few instances ventricular fibrillation and death resulted from destruction of the base of the aortic valve

Coagulation alone without subsequent inoculation caused the formation of small fibrous scars in the mitral ring without thickening of the valve leaflets or contraction of the orifice

Inoculation was not followed by evidence of systemic reaction or elevation of the temperature Within twelve hours after the first inoculation with the viridans strain the free edges of the valve showed tiny discrete vegetations which increased in size until at the end of the first week they appeared as rounded discrete or confluent pinkish warty tumors from 1 to 3 mm in diameter After the second injection the infection took one of two courses If the dog developed no resistance the bacteræmia remained the same or increased the vegetations became huge fungating lesions and the course of the disease followed that of subacute bacterial endocarditis in man The systolic murmur became louder and no diastolic murmur developed Death occurred from septic infarction or embolism of the great vessels If the acute vegetative process healed the leaflets became thickened and fibrosed with dense cartilaginous scars at the base where the mitral ring had been traumatized and with the production of a true stenosis of the orifice Re operation and re inoculation were frequently necessary to give this result

In the cases of the dogs which were subjected only to inoculation positive cultures were obtained for a few days and at necropsy there was no evidence of endocarditis

Postmortem examinations of the hearts of all dogs subjected to operation showed no lesions on any of the valves except the one traumatized at the time of operation

Routine electrocardiograms and roentgenograms of the heart at 1 meter were taken before operation and at intervals thereafter The electrocardiograms showed no definite variations from the normal There was a definite increase in the transverse diameter of the heart in many cases and in those with marked stenosis there was a slight prominence of the left auricular region

The author draws the following conclusions

Vegetative endocarditis of the mitral valve may be produced in dogs by electrocoagulation of the valve followed by the injection of cultures of streptococcus into the blood stream If the animal develops no resistance to the infection the disease pursues an acute course similar to that of bacterial endocarditis in human beings If the acute process subsides the vegetative thrombi become organized fibrosis occurs and the valve becomes thickened and sclerosed Fibrocartilage is deposited around the base of the ring The orifice is constricted and in favorable cases the end result is experimental mitral stenosis comparable in its clinical gross pathological and mechanical aspects to the stenosis seen in chronic cardiac valvular disease in man

E S Platt M D

ŒSOPHAGUS AND MEDIASTINUM

King E Perforation of the Œsophagus with the Report of Six Cases *Ann Otol Rhinol & Laryngol* 1929 xxxviii 351

In all of the six cases of perforation of the œsophagus reported by King the perforation was due to a foreign body that had been swallowed The first symptom of perforation is usually pain This is soon followed by fever an increase in the pulse rate difficulty in swallowing œdema of the tissues and emphysema The amount of swelling and emphysema and the changes in density due to infection can be determined by roentgen ray examination The infection which at first is in the tissues around the œsophagus spreads to the fascial planes of the neck into the mediastinum It is important to establish external drainage in the neck before infection of the mediastinum occurs

J Frank Doughty M D

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Brill S The Effect of Abdominal Thermal Applications on the Intraperitoneal Temperature *Ann Surg* 1929 lxxxix 857

Following a discussion of the clinical facts regarding thermal applications in the treatment of disease and a review of the literature the author reports experiments on animals which tend to show that the external application of heat or cold to the abdomen has little effect upon the intraperitoneal temperature

In experiments on rabbits carried out with a thermocouple within a hypodermic needle MacLeod noted a rise of 4 07 degrees C in muscle at a depth of 17 mm after the application of heat In the peritoneal cavity a rise of 4 degrees C was noted when external heat was applied by means of an electric pad

In experiments on dogs Brill determined the heat change with a thermo electrical apparatus consisting of two thermocouples a constant temperature bath and a galvanometer A needle thermocouple was used within the peritoneal cavity He found that cold applications had little effect on the intraperitoneal temperature the greatest fall being 2 5 degrees C which was observed in one instance The application of heat by means of a hot water bottle over a towel as is usually done in clinical cases did not produce any appreciable change in normal dogs but in anæsthetized dogs with a low rectal temperature it caused a rise of 3 5 degrees C

Brill concludes that the beneficial effects of hot and cold applications are due to other causes than a change in the intraperitoneal temperature

W N Rowley M D

Orr T G and Haden R L Enterostomy in the Treatment of General Peritonitis *Arch Surg* 1929 xviii 2159

Orr and Haden state that in estimating the value of enterostomy in the treatment of general peritonitis two factors should be considered the extent of the peritonitis and its duration In general peritonitis with free fluid and considerable damage to the bowel musculature enterostomy is of little avail whereas in peritonitis localized chiefly in the lower abdomen and associated with symptoms of obstruction it is of great value Sufficient evidence has not been presented to justify the belief that the cause of death in general peritonitis is due to intestinal obstruction alone In certain cases of peritonitis of the lower abdomen enterostomy is life saving Treatment for peritonitis should include the administration of large quantities of a saline solution to overcome the dehydration and relieve the hypochloræmia

John W Nuzum M D

Courty L and Falaba C Fibroma of the Mesentery (Le fibrome du mésentère) *J de chir* 1929 xxxiii 473

This article is based on cases of fibroma of the mesentery reported in the literature and a case seen by the authors Of 16 solid tumors 113 were benign and 103 malignant Among the benign tumors there were 49 fibromata of the pure or mixed type 44 lipomata of the pure or mixed type 3 myxomata 1 pure myoma 3 neuromata 10 lymphangiomata and 4 hæmangiomata

Fibroma is usually single but cases of multiple fibromata have been reported Fibromata may attain great size In a case seen by Folet and Colle the tumor was the size of a full term pregnancy Fibromata may be highly vascularized Their most frequent situation corresponds to the distal portions of the ileum In 40 per cent of the cases reviewed the tumor was closely adherent to the intestine The adhesion is not inflammatory Brunetti has shown that these tumors may arise from the intestine and in the case presented by the author the histological picture showed clearly the continuity between the musculoconnective tissue coat of the small intestine and the fibroma of the mesentery Recognition of this fact is of great practical importance Because of adherence of the mass to the intestine the tumor has sometimes been believed to be an inoperable carcinoma When such an adhesion is found the adherent intestine should be resected

Clinically the fibroma may be of the latent type or of the type associated with digestive symptoms A study of forty four cases showed a slight numerical preponderance of the latter The latent form is characterized by absence of all functional disturbance until after months or years grave symptoms of compression appear suddenly In the authors case that of a man forty four years of age a tumor the size of a fetal head was discovered by a physician who had been called in for an unrelated condition The growth had never caused any symptom The resection of about 30 cm of small intestine was necessary

The digestive and abdominal symptoms that may be caused by fibroma of the mesentery are varied They include a sensation of weight in the abdomen pain at a particular point diarrhœa crises of pain with vomiting discomfort in the epigastrium asthenia with emaciation and slight urinary disturbances The increased size of the abdomen may be mistaken for that of pregnancy Contrary to the classical opinion there is dullness on percussion over the tumor itself The neoplasm frequently occupies the right iliac fossa more rarely the left It is sometimes found in the right hypochondrium

and fairly often in the umbilical region If it is not removed death results from chronic obstruction and cachexia

Early removal is indicated as delay increases the difficulty of operation After a simple enucleation the vascularization of the adjacent intestinal loop must be examined since in some cases the ablation of the tumor interferes with the blood supply of the adjacent loop to such an extent that resection of the loop is indicated When such resection is necessary the enucleation should be done first Extensive resection is rarely required Of fourteen cases in which 75 cm were resected a cure resulted in all whereas of five cases in which from 1 00 to 2 17 mm were resected a cure resulted in only three

The operation is often laborious Hæmostasis is difficult The exeresis of the tumor leaves a large surface which cannot be covered with peritoneum and easily becomes infected especially if the intestine has been resected Mikulicz tamponade is particularly indicated The authors believe it saved the patient s life in their case Because of the danger of peritonitis and of retroperitoneal cellulitis the operative prognosis is always grave

In 12 cases of enucleation without resection there were 10 successful results and deaths and in 22 cases of enucleation with resection 18 successful results and 4 deaths As some of these cases were reported many years ago it may be hoped that the progress of surgical technique will improve the results

The article has a bibliography

FLORENCE A CARPENTER

Des Barres LeR A Case of Laceration of the Gastrohepatic Ligament Complicated by Laceration of the Pancreas (Note sur un cas de déchirure de ligament gastro hépatique compliqué de déchirure du pancréas) *Bull et mém Soc nat de chir* 1929 lv 413

A negro thirty years of age was thrown from his bicycle against the extremity of a wagon shaft and brought to the hospital almost unconscious An hour later the abdomen was found distended and there was a small excoriation to the right of the median line three finger breadths from the xiphoid process Palpation revealed generalized contraction of all the muscles of the abdominal wall and dullness in the flanks The classical signs of internal hæmorrhage were present

When the peritoneal cavity was opened a large quantity of blood and clots flowed out It appeared to come from the under surface of the liver When the liver was lifted the gastrohepatic ligament was found torn away throughout the extent of the lesser curvature The gastric coronary vessels were also torn The pancreas was divided into two parts by a vertical wound with smooth borders and the two parts were held together by a small pedicle which seemed to be the pancreatic canal The splenic vein which was bleeding profusely was ligated the parts of the pancreas were drawn together by three catgut sutures and a tampon with a drain was placed in the laceration of the gastrohepatic omentum The patient died six hours after the operation PAGE

GASTRO INTESTINAL TRACT

Leriche R A Critical Examination of Present Day Theories Regarding the Treatment of Gastroduodenal Ulcers in the Light of Gastric Histophysiology (Examen critique des idees actuelles sur le traitement des ulcères gastro duodenaux en fonction de nos connaissances sur l histo physiologie gastrique) *Bull et mem Soc nat d chir* 1929 lv 33

Until recently Leriche always resected callous ulcers penetrating into the liver and pancreas In the period between 1919 and 1928 he saw twenty such ulcers and resected nineteen with two deaths The deaths were caused by a defect in the suture of the mucosa in the uppermost part of the cardiac extremity

Leriche states that juxtacardiac ulcers do not in reality penetrate the neighboring organs the base of the depression is always covered with peritoneum and the tissue of the organ is not penetrated In several cases he obtained very good anatomical and functional results by detaching the posterior ulcer from its pancreatic or hepatic base pedunculating the borders suturing layer by layer and terminating the operation with a gastro enterostomy The ulcerated zone re united by first intention without any excision and the ulcer did not recur on the line of suture This proves that gastric ulcer even the most chronic is not a trophic ulcer and that the borders of the ulcer are not such deeply infected zones as has been generally believed After the procedure described the stomach is quite deformed but purely mechanical gastric deformity is of little importance

On three occasions the author found it necessary to suture the borders of the ulcer itself but recovery was uninterrupted

A case which is reported in detail demonstrates also that it may not be necessary to resect the gastric mucosa to any great extent in order to modify hyperchlorhydria and hypersection Gastro enterostomy reduces acidity immediately and the reduction is permanent in from 0 to 40 per cent of the cases Neither histology nor physiology suggests that the antrum is the site of the formation of normal hydrochloric acid It cannot be said with certainty today that in sacrificing the pyloro antral region the acid secretion of the stomach is diminished This object is much more certainly gained by putting the patient on a salt free diet

In experiments on dogs it was found that when the antrum was removed the digestive capacity was not changed When the pyloric region was excluded by antral section the excluded segment had no acid content If hyperchlorhydria were the cause of ulcers duodenal ulcers which are nearly always accompanied by an increase in free hydrochloric

acid should be secondarily complicated by gastric ulcer but this is exceptional Leriche suggests that perhaps hyperchlorhydria and ulcer are two manifestations usually associated of the same disease

In forty five specimens of ulcers which the author examined there were only two in which only glands of the fundus were seen In three there were pyloric glands as well These specimens were removed from extensive ulcers In forty cases the ulcer was developed in the midst of the mucous gland and there was no trace of peptic glands

From experiments on seven dogs the author concludes that gastroduodenitis is the consequence of poorly regulated alimentation defective salivary digestion or a humoral condition PAGE

Polony **Eleven Cases of Perforated Ulcers of the Stomach and Duodenum** (Onze cas d'ulcères perforés de l'estomac et du duodénum) *Bull et mém Soc nat de chir* 1929 lv 103

In the eleven cases of perforated ulcer of the stomach and duodenum reported by the author there were two deaths In one of the fatal cases operation was undertaken after peritonitis had become generalized In the other the patient had been obliged to go home on the day after the operation and death was due to a fulminating hæmatemesis occurring on the fifteenth day

Nine of the patients were men and nearly all of them were young or middle aged In nine cases the gastric disturbances had been present for a long time but in one case they had been noted for only fifteen days In one case they were preceded by jaundice and in another by calculous cholecystitis In six cases the ulcer was prepyloric or juxtapyloric in two it was on the lesser curvature and in three it was in the duodenum (in the first portion in two and in the second portion in one)

The only diagnostic error—a diagnosis of acute appendicitis—was made in the case of a patient who was examined late and whose gastric disturbances were slight and of very recent development In seven cases the operation consisted simply of suture of the perforation and burying of the suture with or without omentoplasty In four cases an immediate complementary gastro enterostomy was done because of difficulties in the burying of the first suture due to the infiltration and friability of the tissues around the perforation The four patients recovered

BASSET who reported these cases treated by Polony suggested that in at least some of the cases it might have been advantageous to perform a segmental resection or more exactly a limited local excision of the infiltrated tissues around the perforation with pyloroplasty This technique might have saved the patient who died of fulminating hæmatemesis on the fifteenth day Early operation is always important Polony refrained from draining in only two cases operated on at the fourth and the eighth hour In one case the exudate was clear and citron-colored in the other it was cloudy but not abundant In six cases local drainage was supplemented by Douglas drainage though a hypogastric incision In two only Douglas drainage was used In six cases the remote results were entirely favorable and in two they were fair Of five simple sutures three gave a good and one a fair remote result In one case another operation was necessary after nine months because of persisting disturbances with stricture of the duodenum in the region of the suture revealed by fluoroscopic examination The second gastro enterostomy was followed by a complete recovery and the patient was still well after three and one half years Of three sutures with immediate complementary gastro-enterostomy one gave a fair result and two gave a good remote result PAGE

Guilleminet and Latreille The Results of Treatment of Perforated Gastroduodenal Ulcers (Résultats du traitement des ulcères gastro-duodénaux perforés) *J de chir* 1929 xxxiii 289

The authors give brief histories of forty four cases of perforated gastroduodenal ulcer which were operated upon during the last five years They state that this complication seems to be becoming more frequent Five of the cases were operated on in 1924 seven in 1925 thirteen in 1926, eleven in 1927 and eight during the first half of 1928 All of the patients were men and twenty five of them were between twenty and forty years of age In thirty nine cases the perforation was sutured and a gastro-enterostomy was done In twenty six of these suprapubic drainage was added In two cases simple suturing was done in one case a pylorectomy and in two cases tamponade

The triple procedure of suture gastro-enterostomy and suprapubic drainage has become almost a routine treatment in such cases

In the forty four cases there were five postoperative deaths a mortality of a little more than 11 per cent Two of the patients died following operations performed thirty two and twenty six hours after the perforation and a third died of gangrene of the lung A fourth died on the sixteenth day following an operation without gastro enterostomy The fifth died of peritonitis on the third day This patient was operated upon seven hours after the perforation Autopsy was not permitted The authors believe the death was due to partial gangrene of the colon as in performing a gastro enterostomy through the mesocolon they had caused an injury to quite a large artery which required several ligatures to stop the bleeding Pulmonary sequelæ occurred in ten cases

In the discussion of the results the authors do not include the six cases operated upon in the first six months of 1928 Twenty three of the patients were seen again a considerable time after the operation Among these was the patient subjected to pylorectomy This patient was in excellent condition a year after the operation In the cases of the twenty two patients seen again who were treated by suture of the perforation and gastro-enterostomy the time

since the operation and re examination ranged from four and a half years to six months Seventeen of these patients were re examined with the roentgen ray In eighteen cases the results were good the patients being able to eat any kind of food although some of them were obliged to avoid condiments and alcohol

The results show that a transverse supra umbilical incision gives the most solid scar Of the eleven roentgen examinations made long after the operation eight showed equal evacuation through the pylorus and the gastro enterostomy In two cases evacuation occurred through the pylorus alone and in one case through the gastro enterostomy alone In one case there were alternating periods from two to three weeks in length during which emptying occurred first through the gastro enterostomy and then through the pylorus The authors attribute this finding to intermittent spasm

Two of the patients complained of slight symptoms of indigestion two and three years after the operation In the case of one of them roentgen examination showed normal function and there was no pain point The patient's physician thinks he is an aerophage Two patients had had subsequent operations In the case of one of them a second operation was required for the removal of a Jaboulay button The retention of the button was a result of the technique rather than a late complication of the operation In the case of the other patient it was necessary to make a new anastomosis on two occasions on account of perigastric adhesions The last operation was difficult and it is possible that a gastrectomy will be necessary should there be a recurrence

Good results were therefore obtained in 82 per cent of the cases but the authors hesitate to say that these cases are cured as the prognosis in ulcer is always rather uncertain

AUDREY G MORGAN M D

Sirolli M Surgical Treatment of Benign Diseases of the Stomach Particularly Ulcer (Sulla cura chirurgica delle affezioni benigne dello stomaco con particolare riguardo all ulcera gastrica) *Ann ital di chir* 1929 viii 281

The literature on benign diseases of the stomach is reviewed and forty case operated upon by Fichera are discussed from the point of view of the value of the different methods of operation These cases included three of gastroptosis and dilatation of the stomach eighteen of ulcer of the pylorus (one with perforation) seven of ulcer of the lesser curvature four of ulcer of the duodenum and eight of stenosis of the pylorus

The author concludes that a simple gastro enterostomy performed with the proper technique and at the best site is the treatment of choice for ulcer of the stomach and duodenum In addition to its mechanical effects it suppresses pasm of the pylorus improves the motility of the stomach and through the reflux of duodenal fluid brings about changes in the gastric chemism which though not very well understood evidently contribute to cure In the few cases in which it does not give the hoped for results resection can be performed later

AUDREY G MORGAN M D

Gordon Taylor G Hudson R V Dodds E C Warner J L and Whitby L E H The Remote Results of Gastrectomy *Brit J Surg* 1929 xvi 641

This article is based on the reports of three groups of investigators Fifty two cases of gastrectomy were studied The findings show that the stomach can be removed without causing serious incapacity Postoperative efficiency combined with a gain in weight which was evident in nearly every case demonstrated that the patient was not suffering from any marked alimentary or metabolic disturbance The authors conclude that the digestive functions of the stomach are probably not as important as physiologists regarded them in the past since although gastrectomy does away with all of this mechanism the patient survives in a quite satisfactory condition without it The hydrochloric acid of the gastric juice is regarded as possessing important antiseptic functions yet there is no evidence that gastrectomized patients suffer from serious intestinal putrefaction Chemical analysis of the blood after gastrectomy showed no striking abnormality except a slight rise in the uric acid and cholesterol

In none of the cases studied did pernicious anæmia develop but in 44 per cent there was a secondary anæmia The secondary anæmia was not associated with symptoms and was discovered by laboratory examination

It is generally believed that the beneficial results of gastrectomy are due to achlorhydria produced by the operation but in 20 per cent of the cases in the series studied there was evidence of free hydrochloric acid Therefore partial gastrectomy does not always render the stomach acid free Not all of the acid forming mucosa is removed unless the entire stomach is removed After partial gastrectomy the amount of free acid produced will be in definite ratio to the amount of stomach excised The good results of gastrectomy are due not to achlorhydria but to a decrease in the gastric acidity below normal a decrease in the mobility of the stomach and rapid neutralization Such results are obtained by removing the pylorus a procedure which allows regurgitation of the jejunal contents into the stomach without the interference of pyloric control

In the cases reviewed by the authors in which there was rapid emptying of the stomach a sudden drop occurred in the specific gravity of the urine following the test meal This observation demonstrates the importance of the pyloric control of water absorption

Both the physician and surgeon are attempting to treat benign ulcer of the stomach by methods funda

mentally similar though they obtain their objective by different routes Both attempt to inhibit the secretion of gastric juice and the motility of the stomach The cooperation of the physician of the surgeon and of the laboratory technician is necessary for successful results and will lead to the proper surgical measures if the medical treatment fails to bring about a cure

CYRIL J GLASPELL, M D

Lamont D Cystic Pneumatosis of the Bowel *Glasgow M J 1929 cxi 283*

In the last century only ten cases of cystic pneumatosis of the bowel have been reported in England and America and about eighty cases in the Continental literature An early reference to the condition was contained in the catalogue of the Anatomical Museum of Amsterdam in 1734 under the caption A portion of the jejunum of a man showing a tumor which arise from wind

In a specimen described by Lamont the small bowel contained numerous subserous intramuscular and submucous cysts of varying size disposed chiefly on the antimesenteric border and filled with gas under sufficient tension to cause a loud explosion when pressure was applied with the finger Most of the cysts were in the ileum and jejunum the duodenum appendix and rectum were free A solitary cyst was present on the greater curvature of the stomach In the duodenum there was a large ulcer surrounded by a mass of adhesions The stomach was greatly dilated The cyst walls were formed of connective tissue with an endothelial lining Numerous areas of lymphocytic infiltration with many giant cells were present

The patient from whom the specimen was obtained was a man forty three years of age who had suffered for eighteen years with attacks of vomiting and eructations of foul smelling gas In 1923 he was operated upon for peritonitis due to bacillus coli infection of undetermined origin He sought treatment again because of abdominal pain and the vomiting of large amounts of foul smelling vomitus On percussion a resonant sound was noted throughout the abdomen A diagnosis of pneumoperitoneum was made When the abdomen was opened a large amount of gas escaped and a diffuse peritonitis with a plastic exudate was discovered On culture the exudate was proved sterile The patient died on the fifth day after the operation At autopsy the stomach was found to be markedly and acutely dilated

The author attributes the peritonitis to intestinal organisms liberated in the spontaneous rupture of some of the cysts He believes that the gas in the cyst in such cases is formed in the lymph channel of the intestines as the result of some chemical reaction related to the absorption of the contents of the dilated stomach and bowel and that the loculation leading to the cyst formation is due to a perilymphangitis secondary to the gas production

JOHN W NUZUM M D

Kuss G Rectal and Intravenous Injections of Hypertonic Salt Solution in Intestinal Occlusion (A propos des injections de sérum salé hypertonique par voie rectale et par voie veineuse dans l'occlusion intestinale) *Bull et mém Soc nat de chir 1929 l 95*

This article is a continuation of a controversy with Gosset concerning the value of intrarectal injections of hypertonic salt solution in severe cases of intestinal occlusion Since the hypertonic solution injected intra rectally reaches the circulation in the isotonic form the improvement the veritable resurrection in the case reported by Michel and referred to by Gosset could not have been due to the hypertonic character of the solution used but must have been the result of the absorption of sodium chloride at the physiological percentage in isotonic solution

From a case of paralytic ileus resulting from septicæmia due to the streptococcus hæmolyticus after appendicectomy in which the intrarectal injection of hypertonic salt solution brought about a colorectal hypersecretion Kuss concludes that the results of the rectal administration of hypertonic solutions are less satisfactory than those obtained with isotonic salt solution administered by the drip method

PAGE

Foucault P Intestinal Invagination in an Infant Barium Enema Intervention Hypertonic Salt Solution Recovery (Invagination intestinale du nourrisson lavement baryté intervention serum salé hypertonique guérison) *Bull et mém Soc nat de chir 1929 lv 298*

An infant ten months old was taken suddenly with vomiting and colic after its abdomen had been bumped against a table Forty eight hours after the vomiting there was an abundant emission of very fœtid black blood from the anus On the following day this recurred and the abdomen became distended In the morning of the fourth day a physician discovered abdominal meteorism and a hard sausage shaped body along the transverse colon and in the left hypochondrium He made a diagnosis of intestinal invagination and ordered the child sent to the hospital In the afternoon the sausage shaped body was no longer perceptible because of the distention Rectal palpation gave no information The temperature was 37 9 degrees C and the pulse 104 The diagnosis of intestinal invagination was confirmed by fluoroscopic examination following a barium enema

At operation the invagination the head of which was in the hepatic angle was easily found and reduced To disinvaginate the last 2 cm it was necessary to resect between forceps a crecomesenteric band representing the mesentery of the anterior cæcal artery above which the terminal ileum was strangulated and pushed forward

In the evening the patient was given an intramuscular injection of 10 c cm of hypertonic salt solution The next day the injection was repeated and a rectal drip injection of salt solution was given

The general condition remained excellent After twenty hours gas was passed and after thirty hours the first stool appeared subsequent to an emission of fœtid blood probably due to the disinvagination

The author states that the use of hypertonic salt solution improves the general condition and lessens shock He would have hesitated to attempt disinvagination by means of the barium enema if the general condition had not been good The enema forced the head of the invagination from the left to the right iliac fossa and gave exact information as to its situation However no hydraulic pressure could give the certainty and the precision of manual reduction Moreover rectal injection under super pressure has its dangers although Fruchaud and Lenaux obtained successful results by this means in seven of eight cases In the author's opinion the barium enema is better as a diagnostic aid than a therapeutic procedure PACE

Fevre M Operation by the Supra Umbilical Route and Postoperative Care In So Called Intestinal Invagination of Infants (Intervention par voie sus-ombilicale et soins post-opératoires dans l'invagination intestinale dite du nourrisson) *J de chir* 1929 xxxiii 179

Of eleven cases of so called intestinal invagination of infants which were treated by Fevre four were operated upon by the combined supra umbilical and infra umbilical median route with a successful result in three and death in one and seven were operated upon by the infra umbilical median route with a successful result in all

One of the factors most important for a successful outcome is early operation All of the eleven cases were operated upon within the first forty eight hours The prognosis depends also on the duration and degree of the strangulation The almost pathognomonic sign blood in the stools usually appears after eight hours but sometimes not until after twenty four hours or longer

The chief purpose of operating by the supra umbilical route is the avoidance of operative evisceration Secondary evisceration of the small intestine by separation of the operative wound which is not unusual is also largely avoided The high incision permits easier and shorter maneuvers in ileocæcal invaginations which constitute 93 per cent of all invaginations occurring in the infant Ileal invaginations which constitute 5 per cent of the total number and purely colic invaginations which constitute 2 per cent of the total number are special problems In the infant the peri umbilical region generally corresponds to the small intestine The bladder is high and often there is retention of urine Accordingly a supra umbilical incision median or lateral is indicated All operative maneuvers including fixation are facilitated by this incision The invagination works toward the median line and the deeper regions of the abdomen If the invaginated mass is not in the epigastric region it will be in the flank to the left of the vertebral column

Two incisions are possible the prehepatic and the median supra umbilical These are described in detail The invagination may be at once visible The normal transverse colon may be found between the mass of small intestine below and the stomach above Two fingers exploring the colon toward the cæcum will come upon the ileocæcal mass If nothing abnormal is found there is (1) a disinvaginated invagination (2) a left colocolic invagination which is very rare and to find which the fingers should follow the colon downward or (3) an ileo ileal invagination in which case the hand must be introduced into the abdomen seeking first in the right iliac fossa The mass is found most frequently 30 40 or 50 cm from the cæcum Passing the small intestine through the hands a very serious maneuver is to be considered only when identification with the hand is unsatisfactory

Sometimes the colon is not visible between the stomach above and the small intestine below In such cases the invagination is advanced When the loops are pushed back it is possible to see the root of the mesentery twisted whitish and thickened The left index and middle fingers must be introduced under the small intestine and follow the flank downward to the left of the vertebral column In three cases of advanced invagination the author found the mass in this manner

If the very rare cases of invagination in which reduction is impossible are excepted the beginning of reduction is always easy though the end is often difficult At first the two finger manipulation may be used within the abdomen and then the classical manipulation with the invagination in view The two finger manipulation consists in compressing the intestine between the index and middle fingers above the head of the invagination and pushing the latter before them

As soon as reduction becomes difficult—always in the ileocæcal region—the mass must be exteriorized and manipulated in the classical manner It is necessary to smooth out all wrinkles which might bring about another invagination As a certain degree of torsion is always caused by invagination the cæcum should be carefully replaced in the right iliac fossa

Recurrence is very rare hence fixation is done only when the test manipulation of reinvagination is possible Usually it is not Fixation was done in one of Fevre's cases in which typical reinvagination took place after five months When the supra umbilical incision is used an anterior fixation is done through a boutonniere near the right anterosuperior iliac spine The incision is made with two fingers at the site just under the wall The cæcum is fixed to the external lip of the wound and the ileal loop to the internal lip This is not very satisfactory Frequently in interventions for invagination the appendix is found to be retrocæcal It was discovered behind the cæcum in three of six cases in which its position was determined by the author Under such circumstances its ablation will favor spontaneous fixation of the colon Fevre closes the abdominal

wall with chromic gut and closes the skin with silk worm gut and hooks Closing in one layer favors postoperative evisceration The suture should be begun at the umbilical angle of the wound

If any doubt exists as to whether there is an ileo-ileal invagination or whether disinvagination has occurred spontaneously or as the result of the anæsthesia the ileocæcal region must be examined before the small intestine is explored If the intestine is purple or red swollen and thickened and there are large glands in the ileocæcal angle it is apparent that disinvagination has occurred If examination of the small intestine is necessary the examination must be done very gently and with continuous irrigation with warm physiological salt solution The author used general anæsthesia In two cases it was induced with chloroform and in nine with ether In one of nine cases the temperature did not exceed 38 degrees C on the first day In the eight others it reached or exceeded 39 degrees C and the elevation lasted for from two to four days In combatting it cold enemas tepid wrappings the application of ice to the abdomen and the intrarectal instillation of physiological salt solution by the drip method were found efficacious

If postoperative evisceration is to be prevented dressings must be infrequent Ombrédanne does not remove the bronze sutures until the eighteenth day Hooks should be removed from the skin between the eighth and tenth days and the silkworm gut should be removed between the twelfth and fifteenth days

Twelve cases are reported PAGE

Kornblum K *The Significance of Small Intestinal Stasis* *Radiology* 1929 xiii 17

Stasis of the small intestine can be definitely recognized by roentgen examination It may be significant of disease of the small intestine itself or of disease in associated or remote organs

The author classifies the types of stasis of the small intestine and discusses the significance of each He states that ileal stasis denotes the presence of a lesion in the colon or the terminal ileum Generalized stasis of the small intestine may be due to extrinsic factors such as adhesions or ascites intrinsic lesions such as ulcers diverticula or neoplasms or disturbances in the nervous system such as splanchnic inhibition or the action of drugs such as morphine CARL GARSIDE M D

Guillaume Louis P Acute Postoperative Duodenal Occlusion Cured by Intravenous Injections of Hypertonic Salt Solution (Occlusion aiguë duodénal post-opératoire guérie par injections intraveineuses de sérum salé hypertonique) *Bull et mém Soc nat de chir* 1929 lv 90

The author's patient was operated upon because of abdominopelvic disturbances on the right side and symptoms suggesting chronic intestinal stasis with appendicitis The cæcum was found to be fixed to the abdominal wall by adhesions The appendix was large varicose and moniliform The cæcum was freed and the appendix removed Recovery was normal until the sixth day when there was a slight elevation of the temperature the countenance became somewhat anxious the gastric region seemed tense and the patient complained of discomfort in the gastric region Gastric lavage evacuated a blackish fluid with a sour odor Two hundred and fifty cubic centimeters of physiologic salt solution were injected subcutaneously During the night the patient was very much agitated The next day the temperature was lower but the pulse was small and rapid and the countenance anxious The abdomen still presented no muscular defense in spite of the vomiting of a large quantity of blackish material

Being of the opinion that there was a postoperative duodenal occlusion the author continued gastric lavage and added subcutaneous injections of 250 c cm of serum morning and evening As this treatment seemed to be entirely inefficacious an intravenous injection of 20 c cm of 20 per cent hypertonic salt solution was then given Two hours later the patient declared herself much better and the respiratory disturbance and anguish had passed off Four hours later the intravenous injection was repeated Thereafter two injections accompanied by gastric lavage were given Fifteen days after the operation the patient had entirely recovered

In this case and in another reported in the literature the vomiting and gastric dilatation were considered signs of postoperative duodenal occlusion but the author suggests that in cases in which the patient succumbs after operation without peritoneal reaction or fever but death is preceded by the vomiting of blackish vomitus and infrequent micturition—cases which up to now have been diagnosed as uræmia or glandular insufficiency—the condition might be a true auto intoxication due to a deficiency of sodium chloride PAGE

Rankin F W and Chumley C L Lymphosarcoma of the Colon and Rectum. *Minn Med* 1929 xii 247

Of fifteen patients with lymphosarcoma of the colon who were treated by resection four died from the operation and five are known to have had a recurrence Four of those known to have had a recurrence are dead but the fifth was living when the last report was received The average length of life of the patients who died of recurrence was eleven and a half months Six patients are living and apparently in good health but only two of these have lived long enough since the resection to warrant even the suggestion that they are cured One of the patients has lived four years and the other three years without any evidence of recurrence In one case only exploration and biopsy were done and roentgen ray treatment was given for a large inoperable tumor Two years later the patient appeared to be well and reported that the tumor had disappeared however he was still receiving roentgen ray treatment In a case in which the growth was

situated in the rectum and only biopsy was done roentgen ray and radium treatment was followed by little if any improvement but the patient is still living four months after the diagnosis was made One patient who was given no treatment other than colostomy because the tumor was thought to be inflammatory until the postmortem examination revealed its true pathological nature lived eighteen months Two of the patients who died from recurrence developed a generalized lymphosarcomatosis

The regional lymph nodes were involved in eleven of the fifteen cases in which resection was done Four of the patients died from the operation and four have since died from recurrence The three others are well so far as is known Of the four cases in which lymphatic glands were not found to be involved recurrence occurred in only one and was limited to the operative site at the time the diagnosis was made

The authors are unable to state the value of roentgen ray treatment in lymphosarcoma of the colon and rectum It is usually thought that lymphosarcomatous tumors in general are susceptible to the roentgen rays and may be held in check and sometimes cured by roentgen irradiation Of the seven patients in the series who received roentgen ray treatment after resection three died from recurrence One patient did not receive roentgen ray treatment until recurrence was evident but its use since then has apparently held the process in check In one case in which there was a large cæcal tumor with involved lymph nodes roentgen ray treatment caused the disappearance of the neoplasm and there was no sign of recurrence two years later

Fischer A W The Technique and Choice of the Method of Operation in Carcinoma of the Rectum (Zur Technik und Wahl des Operationsverfahrens in der Behandlung des Rektumcarcinoms) *Zentralbl f Ch* 1929 p 40

Fischer states that the improvement in the results of the abdominosacral operation for carcinoma of the rectum is due to certain details in the technique The best approach is by way of a pararectal incision on the left side which after the operability of the condition has been determined is enlarged by a transverse incision through both recti at the lower angle of the wound For sure avoidance of ureteral injury preliminary exposure of at least the left ureter is necessary This is accomplished during mobilization of the root of the mesosigmoid In order to avoid accidental opening of the rectum when the rectovaginal and uterine plicæ are opened the instrument must be kept close to the bladder or the posterior wall of the vagina This is necessary on account of the anterior direction of the ampulla If the lower end of the bowel which is to be removed later from below is left too long difficulty will be experienced in covering it with peritoneum Therefore the bowel should be severed just above the floor of the pelvis Because of the danger of prolapse of the small intestine it is important to effect firm closure of the pelvic peritoneum by suture or from below by a Mikulicz bag Ligation of the hypogastric artery is not necessary The middle sacral artery is easily ligated

In cases of tumors of the lower sigmoid the author has obtained good results also by entire intra abdominal resection according to the method of Seefisch For extraperitoneal drainage of the pelvic connective tissue a tube may be introduced beside the bladder and brought out above or below through the levator

In the Schmieden clinic a radical amputation is done in most cases Resection is seldom performed because fistulæ following resection are difficult to cure

In the discussion of this report KIRSCHNER stated that he prefers a median abdominal incision with notching of both recti at the symphysis In spite of lumbar anæsthesia he elevates the pelvis very high in order to displace the small intestine from the pelvis To prevent disturbing distention of the colon he inserts a rectal tube through the anus in the first stage of the operation After exposure of the ureters he ligates both hypogastric arteries He emphasized that the rectum should be liberated from above until the bowel can be grasped just above the anus When preservation of the sphincter appears possible he does not perform the resection in the sacral wound but incises the rectum circularly above the sphincter through the anus draws the mobilized bowel out through the anus and amputates the exteriorized portion EHRLICH (Z)

LIVER GALL BLADDER PANCREAS AND SPLEEN

Mogena H G The Clinical Significance of Hyperbilirubinæmia *Lancet* 1929 ccxvi 1187

Milroy G W The Icterus Index of the Blood Serum *Lancet* 1929 ccxvi 1189

Both of the authors recognize the value of determining the bile pigment in the blood serum in certain dysfunctions of the liver and blood dyscrasias the differentiation between acute and chronic inflammatory lesions of the gall bladder the differentiation between inflammatory lesions of the gall bladder and appendicitis duodenal ulcer and cardiac disease and the determination of the severity and prognosis of acute toxic diseases such as typhoid malaria and pneumonia

They state that the tests used vary considerably not only in their sensitivity but also in the differential value MOGENA criticizes the van den Bergh reaction because of its complexity and inaccuracy in revealing the kind of jaundice He prefers the simplified Herzfeld technique which he explains in detail and has found especially valuable in cases of hepatic insufficiency due to early cirrhosis and in the cases of luetic patients sensitive to arsenic

MILROY points out the defects as well as the virtues of the icterus index test While in several of his

cases the index was normal when the findings might have been positive if a more sensitive test had been used in most instances the test was reasonably accurate STANLEY H MENTZER M D

Siciliani G An Experimental Study of the Anatomical and Functional Condition of the Liver After Temporary Compression of Its Vascular Pedicle (Ricerche sperimentali sul comportamento anatomofunzionale del fegato in seguito alla compressione temporanea del suo peduncolo vascolare) *Passegna internaz di chir e terap* 1929 x 115

In a preceding article the author suggested compressing the vascular pedicle with elastic forceps for hæmostasis in operations performed for injuries of the liver As the objection has been raised that this might cause injury to the liver he has recently carried out experiments on dogs to determine whether the objection is justified He covered the blades of the forceps with rubber drainage tubes and applied the pressure for as long as half an hour No serious changes either anatomical or functional resulted The histological changes consisted in only slight signs of degeneration and small foci of hemorrhage which disappeared gradually within twenty days leaving no trace The functional changes were within physiological limits The changes in the pedicle itself were slight and could not be considered a contraindication to the method

The maximum time that compression would be necessary in clinical cases would not be longer than half an hour The author concludes that any changes produced within that length of time would be negligible AUDREY G MORGAN M D

Raydin I S Vasodepressor Substances in the Liver After Obstruction of the Common Duct *Arch Surg* 1929 xviii 2191

Extracts of the liver histamine and choline when injected intravenously have a depressor action

In a certain percentage of cases operation for the relief of obstruction of the common duct is followed by a vasomotor collapse known clinically as liver shock The time of appearance of the symptoms varies but is always after recovery from the effects of the anæsthetic and the surgical procedure Apparently the mere relief of the increased ductal pressure is sufficient to cause it The release of the back pressure in the duct relieves the portal stagnation and the liver cells already damaged are subjected to a rapidly increasing hyperæmia Pathological examination of the livers of persons who have died from liver shock shows extensive cell injury and evidences of varying degrees of autolysis

In experiments carried out by the author on dogs cholecystectomy was performed and obstruction of the common duct then produced by ligation The dogs were fed on routine laboratory diets When they were killed after varying periods of time the liver was immediately chopped up and placed in alcohol and the depressor substances were extracted In every instance a greater amount of depressor substances was obtained from the jaundiced livers than is found in normal liver tissue

The author concludes that the depressor substances account for the shock like state occurring after operations for the relief of common-duct obstruction since on re establishment of the portal circulation they are washed into the blood stream He believes that histamine and choline are derived from the dead liver cells so often present in such cases STANLEY H MENTZER M D

Paterni L An Experimental Study of Icterus Due to Stasis (Contributo sperimentale allo studio dell ittero da stasi) *Policlin* Rome 1929 xxxvi sez med 57

The author performed experiments on dogs with a view to (1) determining the physiopathological value of the hepatic and splenic reticulo-endothelial system in the production of bile (2) observing the course of the icterus in the liver and blood following ligation of the common duct with or without splenectomy and following ligation of some of the hepatic ducts and (3) determining whether these experimental conditions are capable of causing cirrhosis of the liver The results are reported in some detail and the histological findings are shown by photomicrographs

After ligation of the common duct Kupffer's stellate cells in the liver contained deposits of bile pigment The author concludes that this fact indicates the production of bile by these cells These cells contained deposits of bile pigment also when some of the hepatic ducts were ligated though there were only slight signs of icterus There was no bile pigment in the liver cells

In the cases of the animals in which only the common duct was ligated and in those in which the ligation of the duct was associated with splenectomy there were practically no differences in the bilirubin curves or the course of the icterus

Stagnation icterus has generally been attributed to mechanical factors Eppinger says that it is due to rupture of the intralobular canals and the direct passage of bile into the blood Others who believe that such rupture occurs only in advanced stages of icterus attribute it to filtration transudation diapedesis etc all due to stagnation The author's experiments did not show the rupture of the bile capillaries described by Eppinger In animals with ligation of the right and middle hepatic ducts and of one branch of the left hepatic duct there was bile in the blood though there were only slight signs of intrahepatic congestion even several days after the ligations Instead of dilating the proximal tracts of the ligated and sectioned ducts became atrophied This shows that the icterus and intrahepatic congestion do not run parallel as they should according to the mechanical theory of the pathogenesis of icterus

In addition to this experimental evidence of his own the author cites articles in the literature to

support his theory that the mechanical factor is at least only one factor in the production of icterus and that an important part is played by functional changes in the liver cells The histological examinations showed that partial stagnation of bile insufficient to cause icterus caused changes in the liver cells that in the course of time resulted in extensive atrophy In many places there were pseudo angiomatous dilatations of the rete mirabile with atrophy of the parenchyma in spite of the fact that there was no icterus and very little intrahepatic stagnation of bile

The author succeeded in producing cirrhosis of the liver in only one of three experiments in which the ducts of the right and middle lobes were ligated and the animal were allowed to live for from four to five months This fact shows that cirrhosis may be produced by partial stagnation of bile not sufficient to produce icterus One essential for the production of cirrhosis is long life Partial stagnation brings about extensive atrophy of the parenchyma with marked new production of connective tissue if the animal lives long enough but as this occurred in only one of three animals similarly treated other factors must be involved

AUDREY C MORGAN M D

Seifert E The Clinical Significance of the So Called Cholæmic Tendency to Bleed (Ueber die klinische Bedeutung der sogenannten cholaemischen Blutungsneigung) *Beitr z klin Chir* 1928 cxlv 68

The methods used to date to prevent postoperative cholæmic bleeding are not satisfactory as they do not correct the cause The cause is still unknown The author believes that there is a relationship between the prolonged clotting time in icterus of long duration in man and experimental porotic malacia in dogs with a biliary fistula since in both conditions no bile reaches the intestine When a biliary fistula is formed with a perfect technique in the dog and the experiment is continued for a sufficient length of time the organism loses its supply of Vitamin D as the digestion of fat is stopped and thereby also the absorption of the fat soluble vitamin The disturbance in the intermediate calcium metabolism is manifested by a reduction of the calcium in the bones The parenteral administration of the fat soluble vitamin stops the progress of the porotic malacia or cures it

The so-called cholæmic bleeding is also dependent upon a disturbance of the intermediate calcium metabolism In man the value of the parenteral administration of Vitamin D is questionable However these fat-soluble vitamins are the only ones which man and warm blooded animals are able to form or to activate in their own bodies as the result of the action of light such as that of the quartz lamp Therefore the author believes that the tendency of icteric patients to bleed is due not to the severity of the icterus the extent of a possible injury to the liver the causative disease or the presence or accumulation of bile forming substances in the blood but to the absence of bile from the intestine This theory is based on the assumption that the bile is completely excluded and the condition has existed for a sufficient length of time to deplete the necessary supply of Vitamin D

If this theory is correct the treatment and preliminary preparation of patients with icterus which to date have been so unsatisfactory may be improved by quartz lamp irradiation During and after the irradiation the calcium requirement is increased as the utilization of calcium ions in metabolism and coagulation of blood appears to be dependent upon a sufficient supply of Vitamin D RAESCHKE (*)

Walters W Obstructive Jaundice Its Treatment and Complications and the Results of Treatment *N England J Med* 1929 ccl 1

For the proper management of cases of obstructive jaundice an understanding of the physiological and chemical changes associated with the condition is essential Complete relief of the biliary obstruction at operation is absolutely essential A careful study of the patient should be undertaken to determine the best time for operation When complications occur a successful outcome is dependent upon their recognition and control Complete relief of benign biliary obstruction is followed by excellent results in a high percentage of cases

Lasnier E P and Estevan C M R Two Cases of Cystadenoma of the Liver (Dos casos de cistoadenoma biliar) *An Fac de med Univ de Montevid o* 1929 xiv 14

Of the authors two cases of cystadenoma of the liver one was operated on several years ago and the other recently The latter was the case of a man fifty four years of age who had a large round smooth painless tumor of the right lobe of the liver which descended during inspiration and rose during expiration The patient s general condition was excellent A diagnosis of hydatid cyst of the liver was made though all three of the biological reactions—eosinophilia the intradermal reaction of Cassoni and Weinberg s reaction—were negative There are many cases of hydatid cyst in which one or the other of these reactions is negative but it is rare for all of them to be negative

Another sign differentiating cystadenoma from hydatid cyst is the fluctuation in the former which is in contrast to the characteristic resistance of hydatid cyst In the author s first case there was no fluctuation and an elastic tension suggested hydatid cyst In the second case there was fluctuation At operation in the second case an enormous cyst was found from which 10 liters of thick whitish liquid were evacuated The diagnosis of unilocular papillary cystadenoma of the liver which was made during operation was confirmed by microscopic examination of the contents of the cyst a fragment of its wall and the vegetations adherent to its inner surface

AUDREY G MORGAN M D

cases the index was normal when the findings might have been positive if a more sensitive test had been used in most instances the test was reasonably accurate STANLEY H MEYER M D

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mother had undergone an operation for gall stones and her three year old son had had a calculus of the bladder 13 mm in diameter Operation was followed by recovery PACE

Cheever D Instrumental Dilatation of the Papilla of Vater and the Dislodgment of Calculi by Retrograde Irrigation A Contribution to the Surgery of the Bile Passages *Arch Surg* 1929 xviii 1069

Calculi in the common duct may be approached by one of three routes according to the part of the duct that they occupy The supraduodenal portion of the duct which lies between the layers of the gastrohepatic omentum may be incised directly The retroduodenal portion may be reached by mobilizing the second part of the duodenum and possibly traversing the edge of the pancreas To remove a stone lodged in the ampulla of Vater or impacted in the opening of the papilla it may be necessary to open the bowel and slit the papilla itself Incision directly into the duct involves the fewest technical difficulties and is associated with the least danger of secondary complications Fortunately most calculi can be removed by this route with manipulation to press them up into the operative field or the use of scoops to engage them

The first step in determining whether all stones have been removed from the duct should be a test of the patency of the duct This test is best made by passing a hollow instrument from an incision in the supraduodenal portion downward through the papilla into the duodenum and then injecting fluid through the instrument The duct is patent if the fluid passes freely into the viscus and does not flow back around the instrument

Cheever practices bouginage and gradual dilatation of the lumen of the papilla of Vater whenever possible in every case in which the common duct is opened and explored The method employed is as follows

The duct is exposed and the epiploic foramen freed of obstructing adhesions to permit palpation of the duct between the thumb and forefinger The supraduodenal part of the duct is incised and any calculi present are expelled by gentle manipulation The duct is cleared as far as possible by the repeated passage of a small scoop first downward and then upward A No 10 F woven silk elastic olive tipped urethral catheter is next passed downward until its tip is felt to slip through the narrowed lumen of the papilla Its complete passage is confirmed by the injection of a sterile sodium chloride solution When the fenestrated portion has passed beyond the papilla the solution fails to flow back The No 10 instrument is followed in turn by Nos 12 14 and 16 and in some cases by Nos 18 and 20 If the lumen is found to have been dilated by the calculi to this extent no further stretching is attempted On the withdrawal of each catheter the duct is vigorously flushed out After the last catheter has been removed a soft rubber drainage tube of suitable size is passed upward into the duct and fixed in place with a No 00 chromic gut stitch which includes the slightest possible bit of the duct wall The rest of the incision in the duct is closely sutured around the catheter to prevent leakage

The author has performed bouginage with progressive dilatation in 50 of 300 cases of operation on the biliary tract In no case has a reflux of duodenal contents been noted

An advantage of this method of exploring the common duct is the ease of practicing retrograde irrigation to dislodge calculi and debris from the ampulla of Vater and float them up to the incision in the supraduodenal part of the duct The olive tipped elastic bougie is passed downward through the papilla as is demonstrated by the failure of the injected fluid to regurgitate While the injection is continued the catheter is slowly withdrawn until the fluid flows out of the incision in the common duct At this point the injection is stopped and the syringe refilled A much more forceful injection is then made and continued while the catheter is rapidly and completely withdrawn The resulting reflux will inevitably float calculi to the incision in the duct where they may be removed

SAMUEL KAHN M D

Young E L Jr Possibilities of Failure in the Removal of Stones in the Biliary Tract *New England J Med* 1929 cc 1145

Recurrence of symptoms following operations on the biliary tract is relatively common In some cases the recurrence is due undoubtedly to hepatitis but in a good number it is caused by stones overlooked at the time of operation

Of sixty seven cases in which death followed an operation on the biliary tract stones which had not been removed at operation were found at autopsy in 40 per cent In 58 5 per cent of forty-one cases in which stones were found at operation they were found also at autopsy Stones were overlooked in 61 3 per cent of the cases at the first operation When the cases were studied in detail it was evident that in many instances the oversight was justifiable because of the severity of the lesion or operative complications The author concludes that in only eleven (16 4 per cent) of the sixty seven cases were stones left behind which should have been found

STANLEY H MENTZER M D

Williams H and Smithwick R H The Treatment of a Biliary Fistula by Direct Implantation of the Tract into the First Portion of the Duodenum *Ann Surg* 1929 lxxix 94

The authors report a case in which an external biliary fistula was anastomosed to the duodenum fifteen years ago and the patient is still living and well

When the patient was first seen he was a boy four years of age He was admitted to the hospital because of an abdominal tumor which had been present for two months For two years he had had

Whitaker L R Problems in Normal and in Abnormal Physiology of the Gall Bladder *Arch Surg* 1929 xviii 1783

The gall bladder has at least three distinct normal activities (1) the expulsion of its contents by muscular contraction (2) the concentration of its contents by the absorption of water and (3) the secretion of mucus

The mechanism by which expulsion of its contents is brought about is not definitely understood although it is known that expulsion occurs usually as a result of the ingestion of food The food causing the most effective evacuation of bile from the gall bladder is pure fat Proteins have a slight though variable action and carbohydrates have no action at all The contents of the gall bladder are evacuated chiefly by the contraction of the gall bladder musculature This has been demonstrated by X ray examinations of specimens injected with iodized oil and by observations of peristalsis The mechanism by which the contractions are brought about is the elaboration of some substance which enters the circulation and stimulates the musculature of the gall bladder This occurs even in a gall bladder which is completely denervated showing that reflexes are not essential to the action Highly emulsified fat injected intravenously is as effective in emptying the gall bladder as an extract of duodenal mucosa The gall bladder may empty spontaneously also during fasting That acid from the stomach acting on the duodenum is not essential is shown by the evacuation of the gall bladder after feeding in the presence of highly alkalinized stomach contents

The concentrating function of the gall bladder is important as it increases the efficiency of the organ as a reservoir However if emptying fails to occur over concentration with precipitation may occur

The secretion of mucus may be pronounced and perhaps facilitates evacuation of the bile When alterations of the normal functions occur pathological changes may be expected While fat is a strong stimulus to emptying of the gall bladder heavy eaters are prone to develop gall stones This fact may be due to some failure of the gall bladder to evacuate which leads to concentration of the bile with crystallization precipitation and stone formation especially if the bile is loaded with cholesterol from over eating Normally these sequelæ may be prevented by the secretion of mucus the accumulation of which will displace the bile

In some cases the ability of the mucosa to absorb solid or semi solid matter may become abnormal It is suspected that cholesterol is absorbed from bile by the mucosa until pedunculated masses are developed in the rugæ which break off and form the nuclei of cholesterol stones

The relationship of infection to gall stone formation has not been definitely determined While infection may be present with gall stones its occurrence may be coincidental rather than causal It is probable that infection and inflammation of a certain degree in the wall of the gall bladder inhibit the musculature thereby inducing stasis which results in concentration and precipitation

MANUEL E LICHTENSTEIN M D

Martin L and Hill J A Mercurochrome as a Biliary Antiseptic as a Means to Visualize Gall Bladders and as a Possible Form of Treatment in Cholecystitis *Am J M Sc* 1929 clxxvii 710

In the cases of thirteen persons who were given daily by mouth for a week to the point of salivation salol coated tablets containing from 200 to 500 mgm of mercurochrome the bile was never found to be bactericidal or inhibitory of bacterial growth and never contained visible traces of the dye In the cases of eight persons with cholecystitis the treatment had no effect upon the symptoms

Following the intravenous injection of 20 c cm of 1 per cent mercurochrome the dye could be demonstrated in the bile siphoned out through a duodenal tube after from eighteen to twenty three minutes This bile was bactericidal and contained mercury From eighteen to twenty hours after the intravenous administration of mercurochrome the dye could be obtained by duodenal drainage and the bile was bactericidal and contained mercury Apparently mercurochrome may be stored in the gall bladder

Of eight cases of cholecystitis in which mercurochrome was given intravenously a clinical cure was obtained and the bile was rendered sterile in five In three no improvement was noted

The gall bladders of dogs were found to contain mercurochrome eighteen hours after its intravenous injection

As mercurochrome is stored in the gall bladder it is possible to obtain its shadow in roentgenograms

Before the intravenous injection of mercurochrome the patient should be informed that reactions usually occur These vary from a mild diarrhœa or nausea to a marked chill with fever vomiting and diarrhœa

SAMUEL KAHN M D

Jayle F and Aimé P Choledochography (La cholédochographie) *Presse méd Par* 1929 xxxvii 178

The authors report a case in which the dilated choledochus came into view very clearly after the ingestion of tetra iodophenolphthaleinate of sodium A series of roentgenograms without special preparation revealed nothing as did those preceded by the ingestion of gluminized capsules of the tetra iodide In the latter case the non absorbed capsules appeared in the colon When the tablets of the tetra iodide were made up with honey calculi appeared The bile was colored by the tetra iodide and became more opaque revealing the calculi as clear spots in the darkened cavity of the choledochus

The patient was a woman aged twenty six years whose first symptoms developed at the age of twenty one years Jaundice did not appear until after the discovery of the calculi There were four large and three small stones The patient's maternal grand

mother had undergone an operation for gall stones and her three year old son had had a calculus of the bladder 13 mm in diameter Operation was followed by recovery PACE

Cheever D Instrumental Dilatation of the Papilla of Vater and the Dislodgment of Calculi by Retrograde Irrigation A Contribution to the Surgery of the Bile Passages *Arch Surg* 1929 xviii 1069

Calculi in the common duct may be approached by one of three routes according to the part of the duct that they occupy The supraduodenal portion of the duct which lies between the layers of the gastrohepatic omentum may be incised directly The retroduodenal portion may be reached by mobilizing the second part of the duodenum and possibly traversing the edge of the pancreas To remove a stone lodged in the ampulla of Vater or impacted in the opening of the papilla it may be necessary to open the bowel and slit the papilla itself Incision directly into the duct involves the fewest technical difficulties and is associated with the least danger of secondary complications Fortunately most calculi can be removed by this route with manipulation to press them up into the operative field or the use of scoops to engage them

The first step in determining whether all stones have been removed from the duct should be a test of the patency of the duct This test is best made by passing a hollow instrument from an incision in the supraduodenal portion downward through the papilla into the duodenum and then injecting fluid through the instrument The duct is patent if the fluid passes freely into the viscus and does not flow back around the instrument

Cheever practices bouginage and gradual dilatation of the lumen of the papilla of Vater whenever possible in every case in which the common duct is opened and explored The method employed is as follows

The duct is exposed and the epiploic foramen freed of obstructing adhesions to permit palpation of the duct between the thumb and forefinger The supraduodenal part of the duct is incised and any calculi present are expelled by gentle manipulation The duct is cleared as far as possible by the repeated passage of a small scoop first downward and then upward A No 10 F woven silk elastic olive tipped urethral catheter is next passed downward until its tip is felt to slip through the narrowed lumen of the papilla Its complete passage is confirmed by the injection of a sterile sodium chloride solution When the fenestrated portion has passed beyond the papilla the solution fails to flow back The No 10 instrument is followed in turn by Nos 12 14 and 16 and in some cases by Nos 18 and 20 If the lumen is found to have been dilated by the calculi to this extent no further stretching is attempted On the withdrawal of each catheter the duct is vigorously flushed out After the last catheter has been removed a soft rubber drainage tube of suitable size is passed upward into the duct and fixed in place with a No 00 chromic gut stitch which includes the slightest possible bit of the duct wall The rest of the incision in the duct is closely sutured around the catheter to prevent leakage

The author has performed bouginage with progressive dilatation in 50 of 300 cases of operation on the biliary tract In no case has a reflux of duodenal contents been noted

An advantage of this method of exploring the common duct is the ease of practicing retrograde irrigation to dislodge calculi and debris from the ampulla of Vater and float them up to the incision in the supraduodenal part of the duct The olive tipped elastic bougie is passed downward through the papilla as is demonstrated by the failure of the injected fluid to regurgitate While the injection is continued the catheter is slowly withdrawn until the fluid flows out of the incision in the common duct At this point the injection is stopped and the syringe refilled A much more forceful injection is then made and continued while the catheter is rapidly and completely withdrawn The resulting reflux will inevitably float calculi to the incision in the duct where they may be removed

SAMUEL KAHN M D

Young E L Jr Possibilities of Failure in the Removal of Stones in the Biliary Tract *New England J Med* 1929 cc 1145

Recurrence of symptoms following operations on the biliary tract is relatively common In some cases the recurrence is due undoubtedly to hepatitis but in a good number it is caused by stones overlooked at the time of operation

Of sixty seven cases in which death followed an operation on the biliary tract stones which had not been removed at operation were found at autopsy in 40 per cent In 58 5 per cent of forty one cases in which stones were found at operation they were found also at autopsy Stones were overlooked in 61 3 per cent of the cases at the first operation When the cases were studied in detail it was evident that in many instances the oversight was justifiable because of the severity of the lesion or operative complications The author concludes that in only eleven (16 4 per cent) of the sixty seven cases were *stones left behind which should have been found*

STANLEY H MENTZER M D

Williams H and Smithwick R H The Treatment of a Biliary Fistula by Direct Implantation of the Tract into the First Portion of the Duodenum *Ann Surg* 1929 lxxxix 942

The authors report a case in which an external biliary fistula was anastomosed to the duodenum fifteen years ago and the patient is still living and well

When the patient was first seen he was a boy four years of age He was admitted to the hospital because of an abdominal tumor which had been present for two months For two years he had had

occasional attacks of vomiting and recently had suffered from anorexia night sweats fever distention of the abdomen and loss of weight A soft not tender mass which did not move with respiration was palpable under the right costal margin This was diagnosed as an embryonic tumor of the right kidney but at operation it appeared as a cystic mass the size of a grapefruit which was adherent to the ascending colon the liver the posterior deep structures and the undersurface of the liver The gall bladder appeared normal When the cyst was opened a pint or more of greenish slightly viscid fluid escaped As much of the cyst wall as possible was cut away and the edges were sutured to the peritoneum The cavity was then packed with an iodine wick and the abdominal wall closed on either side of the cyst

For nine months all of the bile drained externally through the sinus the stools containing little pigment The sinus then closed intermittently Whenever it closed the patient became ill with fever nausea and constipation At one time he vomited blood and passed tarry stools Following transfusion and the administration of ox gall by mouth his condition gradually improved At an exploratory operation performed ten months after the first intervention the gall bladder was found to be of the size and shape of a large double peanut It contained clear mucus The cystic duct entered the fistulous tract about 1/4 in below the abdominal wall It could not be probed from either end After ligation of the cystic duct the gall bladder and cystic duct were excised The fistulous tract was found to be continuous with the common duct but the latter was obliterated at its duodenal end An anastomosis was therefore made between the end of the fistulous tract and the side of the duodenum with No 0 plain catgut and an outer layer of fine continous silk sutures A Miller wick was then placed to the site of the anastomosis and the wound closed in layers

The stools passed on the following day contained a large amount of bile Convalescence was uneventful The patient left the hospital on the fortieth day

STANLEY H MENTZER M D

Walzel P The Diagnosis and Treatment of Acute Pancreatic Necrosis (Zur Diagnostik und Therapie der akuten Pankreasnekrose) *Wien klin Wchnschr* 1929 i 14

As the result of a better understanding of the various manifestations of acute pancreatic necrosis significant advances have been made in the last decade in the diagnosis of the condition Autopsy findings have demonstrated that the chief cause is gall stone disease Some surgeons have found stones in all of their cases It is not essential that the stone be located in the papilla

Among the particularly characteristic symptoms of pancreatic necrosis are a persistent severe pain in the left upper quadrant of the abdomen phrenic symptoms on the left side the frequent vomiting of spoonful quantities of vomitus a pulse and temperature which are incongruous with the severity of the peritoneal manifestations and changes in the skin in the form of yellow brown patches and lattice like cyanosis The author considers of particular importance the demonstration of an increase in the diastase in the blood and urine Values over 00 indicate pancreatic necrosis but the quantity of diastase is not a criterion of the severity of the disease Glycosuria is present in only a small percentage of the cases and is an unfavorable sign as it indicates that the entire gland is affected

The advances made in the diagnosis of acute pancreatic necrosis have not been accompanied by corresponding advances in the treatment of the condition Operation consisting essentially in drainage of the extravasated secretion has a mortality rate of 25 per cent in the œdematous stage and a mortality of 68 per cent in the necrotic stage The author considers it important to remove the gall bladder and to drain the common duct though some surgeons advise against it The poor results of surgery have led many surgeons to delay until an abscess has been formed which unfortunately occurs rather infrequently in pancreatic necrosis

FRANK (Z)

Patey D H Apparently Spontaneous Rupture of the Normal Spleen *Brit M J* 1929 i 898

In various pathological conditions of which malaria is the best example the spleen may rupture following the slightest trauma or even without injury Spontaneous rupture of the normal spleen is rare

In the case reported by the author that of a man fifty years of age the rupture of the normal spleen had apparently occurred spontaneously but several weeks after the operation it was learned that the patient had struck his left side against a window ledge The accident had been so slight that he failed to remember it

Eight similar cases of minimal trauma causing rupture of the normal spleen have been collected by the author from the literature If the capsule remains intact in such cases the symptoms may be delayed for hours or days so that when the patient eventually collapses the causative injury is forgotten

STANLEY H MENTZER M D

GYNECOLOGY

UTERUS

Bonneau R A Technique to Prevent Angulation and Inclusion of the Fallopian Tube in Ligamentopexy When the Attachment of the Tube to the Round Ligament Is Abnormally Rigid (Éviter dans la ligamentopexie que la trompe accolée au ligament rond ne vienne s'inclure et se couder dans la paroi) *Paris chir* 1929 xxi 44

In some women the strip of peritoneum between the tube and the round ligament is so narrow and so lacking in suppleness that a suture anchoring the ligament may readily cause angulation in the tube and the latter will then be drawn into the button hole incision in the rectus muscle In the technique suggested by Bonneau to prevent this accident the peritoneum between the tube and round ligament is incised transversely for a short distance and the tube and ligament are seized one with each hand and pulled apart The incision in the peritoneum which then becomes a lozenge shaped wound is sutured longitudinally instead of transversely or may not require suturing at all In either case the ligament may then be exteriorized without danger to the tube The procedure is shown in diagrams

FLORENCE A CARPENTER

Heyman J Radiological or Operative Treatment of Cancer of the Uterus (Radiologische oder operative Behandlung von Cancer uteri) *Strahlentherapie* 1928 xxix 40,

The author has attempted to ascertain which methods of treatment the operative or radiological have given the best results in carcinoma of the uterus He believes that this question can be answered only by statistics The statistical material now available is sufficient to permit judgment regarding absolute cures It is impossible however to draw reliable conclusions from a comparison of figures alone as the results of operative treatment have been obtained in cases that on the whole were considerably more favorable than those treated radiologically

With great thoroughness the author has collected all statistics published in the literature of the world on the results of operative treatment and radiological treatment of carcinoma of the uterus and has presented them in very clearly arranged tables In the arrangement of the results according to uniform principles to allow comparison he has followed chiefly the rules established by Winter

With a fairly strict evaluation of the reports the average incidence of cure following operative treatment in carcinoma of the cervix can be estimated at the most at 20 2 per cent The statistics of Radiumhemmet include 500 cases treated primarily radiologically and 41 cases not treated With the strictest critique the incidence of cure in these cases was at least 20 7 per cent In two thirds of the operatively treated cases the cases that were operable constituted 58 6 per cent and at Radium hemmet they constituted 6 6 per cent of the total number The author draws the conclusion that from the standpoint of absolute cure in carcinoma of the cervix radiological treatment as given at Radium hemmet is better than operative treatment As regards the results in operable cases alone the statistics of radiological treatment are still insufficient to allow a comparison with the results of operation but the figures up to the present time offer no support for the assumption that operative treatment in these cases will accomplish more than radiological treatment

With regard to the operative and radiological treatment of carcinoma of the body of the uterus the author states that even though the results reported up to the present time are relatively few they nevertheless suggest that irradiation is as effective as operation The incidence of cure after operation averages 4 8 per cent in all cases and 58 8 per cent in operable cases The statistics of Radium hemmet include 46 cases with a cure in 43 5 per cent of the total number and 60 per cent of the operable cases

DEHLER (G)

Weibel W Twenty Five Years Experience with the Wertheim Operation for Carcinoma (25 Jahre Wertheimscher Carcinomoperation) *Arch f Gynäk* 1928 cxxxv 1

This very extensive work is a report on the entire Wertheim material of 1 500 cases More than 1 000 of the patients were traced for at least five years These statistics are of special value They are not only the most comprehensive as regards a single method of treatment used for a quarter of a century but are also of historical interest since they represent the complete development of Wertheim's work Within the limits of an abstract it is impossible to enter into detail with regard to the facts experiences etc reviewed

In the beginning the quality of the operative material which is divided into four groups is discussed Then the operability which has varied between 49 and 54 per cent is taken up An exceedingly interesting chapter is devoted to the development of the surgical technique The questions of anæsthesia and the behavior of the glands and parametria are also discussed The complications that may occur during or after the operation are described—accidental injuries of the bladder ureters and intestine necessary resections of these organs blood vessels etc spontaneous fistulæ

rupture of the carcinoma cavity during the operation paralysis of the bladder cystitis pyelitis subperitoneal suppurations thrombosis embolism and other postoperative complications are taken up The operative mortality (19 to 9 per cent) the primary causes of death and the incidence of recurrence and permanent cure (40 to 47 per cent) are reported In conclusion the relationship of carcinoma and pregnancy and carcinoma and age is discussed VON WEINZIERL (G)

Skrobanskij K Extended Operation for Carcinoma of the Uterus According to the Material of the Obstetrical Gynecological Clinic of the Medical Institute of Leningrad (Erweiterte Operation des Uteruscarcinoms nach dem Material der geburtshilflich gynaekologische Klinik des Leningrader medizinischen Instituts) *Z Akus* 1928 xxxix 273

In 200 cases of carcinoma of the uterus in which the author performed the abdominal Wertheim operation there were 42 deaths a primary mortality of 21 per cent The carcinoma was situated in the corpus in only 6 cases (3 per cent) Although even far advanced cases were operated upon if the patient's condition and the extent of the process allowed it the operability was only from 45 to 50 per cent The younger women withstood the operation better than the older women In the cases of 19 women under thirty years of age the primary mortality was 10 5 per cent whereas in those of older women it was 24 per cent Women beyond sixty years of age also withstood it well only 1 of 8 dying from the intervention

The author is an advocate of the abdominal route which allows besides extirpation of the glands the radical removal of the parametrial connective tissue and ligaments a step absolutely essential in far advanced cases He describes the technique in detail Before the operation he cauterizes the vagina and the ulcerated portio with 10 per cent silver nitrate and packs the vagina with gauze wet with the same solution He believes that extensive dissection of the ureters is harmless and important He ligates the uterine arteries as far laterally as possible at the point where they branch off from the hypogastric arteries He emphasizes the importance of exposure of the sacro-uterine ligaments and their complete removal After the removal of the uterus care must be taken to obtain complete hæmostasis Quick and complete hæmostasis often determines the result Carcinomatous glands were found in 16 per cent of the cases reviewed Careful peritonization is necessary Drainage is not indicated A retention catheter is introduced After using lumbar anæsthesia for years the author has returned to inhalation narcosis induced with chloroform and ether

In 5 cases in which secondary suture was necessary because of complete opening of the wound there were 2 deaths In 19 cases (10 5 per cent) there was obstinate cystitis In 7 cases there was a ureterovaginal fistula and in 7 others a vesicovaginal fistula In 12 cases there was a suppurative parametritis Of ten patients who died within twenty four hours after the operation all succumbed to operative shock There were no deaths from internal bleeding Nineteen patients died between the second and fourth days some of them from operative shock and others from infection of the peritoneum or connective tissue The deaths occurring later were due chiefly to extensive suppuration Hence operative shock was an important factor in the mortality being responsible for about 50 per cent of the deaths The more gently the operation is performed the better the results Only a few patients could be followed up Twenty two are known to have developed a recurrence In 4 cases a cure more than five years was obtained A SCHEINMANN (G)

Kehrer E and Neumann H O Extirpation of a Carcinoma of the Uterus in a Child One and a Half Years of Age (Uteruscarcinomextirpation bei einem 1½ jaehrigen Kind) *Monatsschr f Geburtsh u Gynaek* 1929 lxxxi 68

After reviewing the literature on malignant tumors of the genital canal before the fourteenth year of life the author reports a case of carcinoma of the corpus of the uterus in a child one and a half years old which was observed by him Clinical examination revealed a firm elastic tumor in the hypogastrium with its upper pole two fingerbreadths above the symphysis At operation the tumor proved to be the uterus On removal of the uterus the tumor ruptured emptying malignant masses with the odor of a colon bacillus infection Both of the ureters were dissected out freely They were dilated to the thickness of the little finger

After the operation intestinal activity was normal Vomiting occurred twice The temperature ranged from 38 to 39 6 degrees C and the pulse from 140 to 170 On the seventh day the abdominal wound broke open Death occurred on the tenth day

The tumor was at first believed to be a sarcoma but special staining methods showed definitely that it was a carcinoma The histological findings are described in detail and shown by photomicrographs P KLEIN (G)

Uspenskij S The Development of Malignant Neoplasms in the Cervix After Supravaginal Amputation of the Uterus (Zur Frage der Entwicklung boesartiger Neoplasmen an der Cervix nach supra vaginaler Absetzung des Uterus) *Zh akush i ginek ukrainskoi bolezni* 1928 xxxix 214

The author reports two cases of carcinoma in the cervical stump following supravaginal amputation of the uterus on account of myoma In the first case the symptoms developed ten years after the operation and a more extensive radical operation was followed by recovery The subsequent fate of the patient is unknown The second case was one of inoperable carcinoma discovered twenty years after the operation During the interval the patient felt entirely well Symptomatic treatment was given

In a review of the literature the author was able to find only eighty four similar cases Of the seventy four neoplasms which were described in detail sixty eight were carcinomata and six were sarcomata As these complications are rare Uspenskij sees no reason to abandon the supravaginal amputation as has been done by some surgeons However he believes that in the presence of an erosion or ectropion of the portio or of lacerations in the cervix total extirpation is better A SCHEFFMANN (G)

ADNEXAL AND PERIUTERINE CONDITIONS

Tietze K Cyclic Changes in the Epithelium of the Human Fallopian Tube (Zur Frage nach den cyclischen Veraenderungen des menschlichen Tubenepithels) *Zentralbl d Gynaek* 1929 p 32

The author has applied the comparative anatomical investigations of Bohnen on the functional activity of the epithelium of the fallopian tubes to human tubes and has attempted to determine whether anatomical cyclic changes can be observed in the tubular epithelium from which it is possible to determine the existing phase at a glance His findings are summarized as follows

In the first few days after menstruation the light ciliated cells are very low appear as if shrunken and take on more color Nevertheless there are also plump cells with a broad base and a somewhat lighter cell body The nucleus of the cells lies centrally and is round and darkly tinged The slender cells without cilia rise high above those with cilia are very *prominent* and are visible in their entire length in groups of from two to six or more The further advanced the existing phase from the last period of *menstruation* the longer are the ciliated cells The cell bodies become slender the protoplasm stains easily and the nucleus becomes more distinctly oval The cell without cilia behave as previously

After from fourteen to fifteen days there is a high palisade like stratified ciliated epithelium in which the cells without cilia barely extend beyond the uniform basal nodular line The ciliated cells are uniform and very closely packed (compression) and their nuclei are oval darkly stained and slightly granulated Occasionally the impression is gained that the ciliated cells undergo transformation into cells without cilia Frequently non ciliated cells with pear shaped nuclei lying at the base are seen The reverse picture is very rare in this phase

After ovulation the picture changes The ciliated cells become lower The cells without cilia rise above the others The ciliated cells become more barrel shaped and lighter The nucleus is round and shows distinct granulation The nearer the premenstrual period is approached the more numerous the barrel shaped ciliated cells and also the cells without cilia with their club shaped side toward the lumen In pregnancy also conditions are maintained The cells without cilia rise above the lower level of the basal nodular row of ciliated cells and often are club shaped and the ciliated cells have a clear protoplasm vesicular appearance and round granulated nucleus HANS O NELMANN (G)

Jarcho J Uterosalpingography *Im J Surg* 1929 vi 693

Uterosalpingography should not be used in pregnancy in cases of gonorrhœal or other acute tubal inflammation during menstruation or for the localization of malignant growths When indicated it is a safe procedure No toxic effects of iodine were observed even after injections of 20 c cm of the oil and there appears to be no danger of the formation of peritoneal adhesions

Jarcho describes a nozzle and syringe with a manometer attachment which he has devised for the control of the pressure and the amount of the oil to be injected He states that Forsdike of London was the first to use iodized oil in gynecological cases

ABRAHAM A BRAUER M D

Brun and Cortesi Accidents Following Intra Uterine Injections of Lipiodol (A propos des accidents consécutifs aux injections intra utérines de lipiodol) *Bull et mém Soc nat de chir* 1929 lv 134

The authors report two cases of unfavorable sequelæ caused by the intra uterine injection of lipiodol The first patient became pregnant two years after marriage but the child died at birth because of difficulty in labor due to breech presentation Puerperal infection kept the patient in bed for two months and she continued to have a left salpingitis for some months longer Then for five years she was very well except for leucorrhœa During that *time* she consulted four gynecologists on account of sterility They recommended examination of the tubes by insufflation or by the injection of lipiodol Two days after the end of a menstrual period she was given an intra uterine injection of lipiodol and three days later an insufflation During the injection she felt severe uterine pains which she compared to those of labor Ten days later menstruation occurred Large clots were expelled and the hæmorrhages lasted eleven days *After this* the patient had violent pains generalized throughout the abdomen but most severe in the left iliac fossa Her temperature was 39 4 degrees C An exacerbation of the salpingitis on the left side had occurred Under treatment by the *application of ice* to the abdomen vaginal injections and absolute rest the pain ceased and the temperature became normal but the salpingitis still *remained evident* Roentgenograms showed the left tube to be impermeable The right had been injected as far as the pavilion

The second case was that of a woman aged thirty eight years who had been married twelve years but had never been pregnant Menstruation was normal *The patient* had undergone several dilatations and three years ago a stomatoplasty An injection of lipiodol which showed the tubes to be permeable was followed by severe pain in the abdomen with fever

A collection of pus in the pouch of Douglas was opened by colpotomy The patient stated that she had never experienced abdominal pain before the lipiodol injection PACE

Rubin I C Uterotubal Insufflation Followed by Pregnancy in 205 Cases Out of a Series of 2 000 Cases of Infertility *Am J Obst & Gynec* 1929 xvii 484

Of the 2 000 cases of sterility reviewed by the author the condition was primary in 1 070 and secondary in 930 Following uterotubal insufflation 132 of the women with primary sterility and 73 of those with secondary sterility became pregnant

A history of induced or spontaneous abortion was given by 49 (67 per cent) of the 73 women with secondary sterility who became pregnant following the tubal insufflation Thirty one of this group of 49 had had 38 spontaneous abortions and 18 had had 26 induced abortions

Eighty five of the 205 women who became pregnant after tubal insufflation had had a surgical operation

One hundred and eighty eight had full term children and 17 had miscarriages

Fifty four (27 per cent) of the women who became pregnant were over thirty years of age

Fifty nine pregnancies occurred within one month after the insufflation and 39 within two months Therefore 98 (nearly 50 per cent) occurred within two months

Of the 73 women with relative sterility who became pregnant after the insufflation 38 had failed to become pregnant for three years following the last full term pregnancy or abortion 17 had failed for five years 11 for seven years 5 for from seven to ten years 2 for twelve years and 1 for fourteen years

In the cases of 92 of the 205 women who became pregnant the insufflation was supplemented by some adjuvant treatment In 113 cases no other treatment than the tubal insufflation was given The women who became pregnant promptly were not those receiving gland extracts

In all cases in which a pressure of 200 mm Hg has been reached the possible occurrence of ectopic pregnancy must be borne in mind

In 154 cases of the cases reviewed the insufflation was done between the first and the fourteenth day following the cessation of the last menstrual period i e in the pre ovular phase Of the 59 women who became pregnant within one month after the insufflation 24 were insufflated within seven days after the last menstrual period and 25 in the second week after the last menstrual period Therefore 87 per cent of the 59 pregnancies occurring within a month after the insufflation followed an insufflation performed within two weeks after the last menstrual period and 13 per cent followed an insufflation done later than two weeks after the last menstrual period In the cases of 83 per cent of the 49 women who became pregnant within two months after the insufflation the insufflation was done within two weeks after the last menstrual period

Thirty women who had been married for from three to five years at the time of treatment became pregnant within one or two months following the insufflation and 26 who had been married for five years or longer became pregnant within the first two months following insufflation This is the best evidence of the therapeutic efficacy of the test

In 42 per cent of the 205 women becoming pregnant after the insufflation the insufflation was within one week and in 75 per cent within the first two weeks after the last menstrual period

In 27 of the 42 cases of pregnancy in which per uterine insufflation was repeated one or more times the initial pressure reached before tubal patency became established was above 100 mm Hg In 12 cases the pressure reached 200 mm Hg the first time and was within normal limits the second time Although 200 mm Hg was given by the author in his early report as the high limit of non patency increasing experience has taught that greater pressures may in some instances open the tubes in such cases Tubes that resist gas pressure up to 200 mm Hg on three tests may be said to be definitely obstructed yet occasionally a fourth fifth or sixth insufflation may overcome the obstruction

Of 116 women giving definite information as to precautions against conception 77 took precautions and 39 did not Of the former 67 had taken no precautions for a period of from one to three years 8 for a period of from three to five years and 2 for a period of from five to eight years Of the 39 who did not take precautions 15 had been married for a period of from one to three years 15 for a period of from three to five years 7 for a period of from five to eight years one for twelve years and one for fourteen years E L CORNELL M D

Madruzza G The Grafting of an Ovary of Pregnancy into an Elderly Woman (Un caso di innesto con ovaio gravidico su soggetto anziano) *Clinica ostet* 1929 xxxi 61

The case reported was that of a woman seventy three years of age who had had three children The menopause began at about the age of fifty years The patient came for treatment for prolapse of the genitals with cystocele and rectocele and was in very poor general condition She grew worse after the operation and showed profound asthenia and a subconfusional condition She grew so very much worse that fears were entertained for her life A tonic treatment which was begun when she entered the hospital had not done any good Ovarian grafting was therefore performed The grafted ovary was obtained from a woman who was six months pregnant when an operation was performed for myoma The ovary was split in longitudinal section and grafted between the muscle and aponeurosis of the abdominal wall

About a week after the operation the patient's general condition began to improve and in ten days

she was able to be out of bed She was discharged in good condition a month after the grafting When she was seen ten months after the operation she was still in good condition and had gained weight The graft had had no effect on the genital organs or on libido It would seem that this could hardly be expected when the ovaries had not functioned for so long and had doubtless undergone senile atrophy but some of the patients whose cases were reported by Voronoff and others were as old However the author thinks that the improvement in the general condition was more rapid than it would have been with ordinary opotherapy AUDREY G MORGAN M D

EXTERNAL GENITALIA

Stein I F Lerenthal M L and Sered H Cervicovaginitis in Children A Study of 296 Consecutive Cases *Am J Dis Child* 1929 xxxvii 1203

The authors recommend the use of the vagino scope for the study and treatment of genital inflam mation in young girls Examination with this instrument reveals that cervical involvement is an essential part of so called vulvovaginitis and that very frequently the urethra is similarly involved

Of the cases reviewed about one fifth were of gonorrhœal origin The treatment consisted in daily instillations into the vagina urethra or Bartholin s glands of 1 per cent mercurochrome 220 soluble in equal parts of hydrou wool fat and petrolatum In the gonorrhœal cases the average duration of treatment was eleven and one tenth weeks The non gonorrhœal cases responded in less than half that time About 20 per cent of the patients treated for gonorrhœal cervicovaginitis returned with recurrence of the discharge in three months In the non gonorrhœal cases there was no recurrence

After the termination of active treatment a long period of observation is necessary before a complete cure can be assumed ABRAHAM A BRAUER M D

MISCELLANEOUS

Doederlein A Irradiation Therapy and Progeny (Strahlenbehandlung und Nachkommenschaft) *D tsch med Wchnsch* 1928 ii 1927

With regard to the question as to whether the progeny of mothers treated by irradiation are in jured by the treatment and whether temporary sterilization by irradiation is justified the author reports the following observations

1 Two cases of pregnancy following recovery from cancer In the first case the irradiation amenorrhœa lasted one year and the pregnancy occurred a year later Subsequently there were three additional pregnancies The four children were healthy In the second case there was no true irradiation amenorrhœa but menstruation was diminished after implantations of radium Later (after six years?) a healthy child was born at term

2 Two cases of irradiation therapy of carcinoma of the portio during pregnancy Repeated vaginal applications of radium were made Several months later in both cases a healthy mature child was born spontaneously

3 Seven cases in which irradiation for benign disease was followed by pregnancy In the first case the irradiation amenorrhœa lasted half a year and was followed by opsomenorrhœa Five years later a healthy child was born In the second case a healthy child was born after an irradiation amenorrhœa of two years duration and opsomenorrhœa In the third case irradiation was followed by amenorrhœa for two years and opsomenorrhœa and then con ception By mistake the irradiation was repeated during the fifth month of pregnancy but a healthy child was born at term One and a half years later the patient gave birth to a second child Neither child showed any abnormality In the fourth case a healthy child was born after an irradiation amenor rhœa of two years and a second healthy child was born two years later In the fifth case roentgen irradiation and two intra uterine applications of radium (each consisting of irradiation with 45 mgm of radium bromide for ten hours) were followed by irradiation amenorrhœa for four and one half years and then by opsomenorrhœa After marriage the patient menstruated regularly but had three abor tions In the two cases last mentioned concep tions ended in abortion or premature delivery

KABOTH (G)

Maurizio E The Pathogenesis and Treatment of the Metrorrhagia of Puberty (Considerazioni sulla patogenesi e terapia delle metrorrhagie della pubertà) *Riv ital di gin e* 1929 ix 107

The author reviews twenty cases of metrorrhagia occurring at puberty This condition is present in about 1 per cent of the cases treated at his gyneco logical clinic It does not occur any more frequently in one social class than another but apparently is influenced by climate as it is more frequent in some regions than in others In quite a number of the cases there seems to be a secondary hæmorrhagic diathesis hereditary or acquired In seven of the cases reviewed there was a tendency toward hæmor rhage on the maternal side of the patient s family However the metrorrhagia is not a constitutional hæmorrhagic syndrome such as hæmophilia or Werlhof s disease because it is temporary and stops after puberty The author thinks it may be due to some disharmony in the blood forming organs and endocrine glands He therefore calls it a hæma topoietic endocrine puberal disharmony The dis harmony appears at puberty because the glands are then subjected to functional demands greater than before The metrorrhagia is found in different constitutional types but the author thinks it pre dominates to a certain extent in the Giovanni Viola Type 1 In general the prognosis is not unfavorable but it may be less favorable in cases in which there is a hereditary taint

Medical treatment may be effective in mild cases In severe ones it may do some good and give time for the institution of more effective measures Small doses of different endocrine preparations—ovary thyroid and hypophysis—given separately may be beneficial Among physical methods irradiation of the spleen is worth trying as it is harmless and is more effective than the usual hæmostatics Better results may be obtained by irradiation of the ovary but the doses should be small and the spleen should be irradiated at the same time Radium therapy gives results equal to those of roentgen therapy but is not entirely free from danger Curettage is often performed but its results are so slight that it should be limited to serious and urgent cases and even in these it should be used for purposes of diagnosis rather than cure Sometimes transfusion of blood is of value as it modifies the coagulability of the blood and prevents the return of hæmorrhage In five of the author's cases blood grafts that is small transfusions of from 5 to 10 c cm of blood proved beneficial This treatment is indicated particularly in the cases in which hæmatopoietic disharmony predominates In those in which endocrine disharmony predominates opotherapy is preferable

AUDREY G MORTON M D

Granzow J Experimental Studies on Animals with Regard to the Course of Genital Tuberculosis in the Gravid Puerperal and Allergic Organism (Tierexperimentelle Studien ueber den Ablauf weiblicher Genitaltuberkulose im graviden puerperalen und allergischen Organismus) *Beit Klin d Tuberk* 1928 lxx 548

The author subjected adult female guinea pigs to intra uterine infection with tubercle bacilli by depositing the infectious material with a very fine syringe in one horn of the uterus after performing a laparotomy As nearly as possible a uniform previously weighed amount of the bacillary material was introduced and the same strain of bacillus of moderate but constant virulence was used in all cases In the resting uterus positive local tuberculous changes were found in only 6 per cent of the animals but in the gravid uterus the incidence of positive findings rose to 28 per cent and in the puerperal uterus it rose to 45 per cent

In another series of experiments the animals were first infected subcutaneously with the tubercle bacillus and then after the clinically certain development of tuberculous changes which resulted in from twenty-one to seventy one days an intra uterine tuberculous re infection was undertaken In this group the incidence of local tuberculous changes in the uterus was 50 per cent

No explanation can be given for the great resistance of the resting uterus That the infection was virulent was shown by the tuberculous changes in other organs The most striking finding was the increase in the sensibility of the uterus toward the secondary tuberculosis in the form of intra uterine re infection Examination of the tuberculous genitals showed that in no case had the tuberculous infection advanced to the tubes or ovaries The vagina however was repeatedly found involved In the uterus itself disease was evident in all parts and all layers but the peripheral mural strata were more often diseased than the central strata even though the infection was intracanalicular

The histological structure of the tuberculosis showed the greatest variation Moreover both tuberculous and non tuberculous uteri frequently presented non specific degenerative inflammatory changes as well as marked atrophy This was true also of the tubes The ovaries often showed inhibition of ovulation These changes are looked upon as the result of dissemination of the tuberculosis throughout the organism In the cases of pregnant animal abortion almost always followed the uterine infection Infected animals almost always remained sterile partly because of the direct and partly because of the indirect effects of the tuberculosis upon the genitals When tuberculosis of the uterus was found the regional lymph glands with few exceptions showed tuberculous involvement but tuberculous changes of the regional lymph glands were found also in two thirds of the animals without tuberculosis of the uterus In the puerperal animal both the regional and other lymph glands showed greater tuberculous involvement than those of the other animals Pregnancy as well as the puerperium increased the sensitivity of all of the organs to tuberculosis

PEYSER (G)

Meigs J V Endometriosis the Occurrence of Endometriomata in the Abdominal Wall Four Cases Following Operations in the Female Pelvis *N England J Med* 1929 cc 1020

In one of the four cases of endometriosis reported by the author the endometriomata developed after a cæsarean section and in three they appeared after an operation on the ovaries and uterus

The development and the pathology of endometriosis were first described by Sampson Meigs discusses Sampson's implantation theory and the theories attributing the condition to muellerian and wolffian rests He regards Sampson's theory as the most plausible

The implantation of endometrial tissue in the abdominal wall during a pelvic operation can be prevented or guarded against by protecting the abdominal wall against soiling by clipping protecting towels to the peritoneum instead of the skin and taking care not to pass suspension or fixation sutures through an adenomyoma of the uterus and thence through the wall of the abdomen

The treatment of endometriosis is complete eradication of the endometriomata total ovarian ablation or roentgen ray or radium irradiation in doses which are sufficient to bring about the menopause Ovarian ablation and irradiation will cause atrophy of the growths with the eventual subsidence of the symptoms

T FLOYD BELL, M D

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Bakscht G A The Evaluation of the So Called Phrenic Nerve Symptom in Interrupted Extra Uterine Pregnancy (Die Wertung de sogenannten Phrenicussymptom bei unterbrochener Extrauterin g aviditaet) *Monatsschr f Geburtsh u Gynaek* 1929 lxxv 62

The phrenic nerve symptom (pain radiating chiefly into the right shoulder) noted by Oehlecker in diseases of the internal organs in the region of the diaphragm occurred in ten of fifty cases of right sided or left sided extra uterine pregnancy seen by the author in the last two years It was associated not only with tubal rupture but also in six cases with tubal abortion F Terruhn (G)

Peckham C H Observations on Sixty Cases of Hyperemesis Gravidarum *Am J Obst & Gyn c* 1929 xvii 776

During a period of eight years forty eight pregnant women were admitted to the wards of the Johns Hopkins Hospital Baltimore on account of vomiting Two of them had suffered from this condition during two pregnancies one had had it in three pregnancies six had a relapse requiring a second admission during a pregnancy and one was admitted three times on account of the condition The total number of admissions for hyperemesis gravidarum was therefore sixty

Vomiting of pregnancy sufficiently severe to warrant admission to a hospital occurs about once in 150 pregnancies and is very severe once in 400 pregnancies It occurs most frequently in women in the upper walks of life but negro women are not immune to it Age and parity are not predisposing factors

Severe vomiting usually starts before the eighth week and occasionally before the fourth week of pregnancy Neither the time of its onset nor its duration nor loss of weight indicates the severity of the disease or affords a safe guide for prognosis A high pulse rate usually indicates severe vomiting but does not necessarily imply a serious prognosis On the other hand a low pulse rate may persist in a severely ill patient Fever due to dehydration is frequent

The presence of albumin in the urine is frequent but of slight prognostic importance Acetone bodies are often absent from the urine in severe cases A high ammonia coefficient is usual but a low one does not necessarily indicate that the case is mild

In mild vomiting of pregnancy the blood chemistry is not essentially changed although the uric acid tends to rise and the chlorides tend to fall In severe cases a definite increase in non protein nitrogen uric acid and sugar is usually noted The chlorides are often considerably lowered

In most cases isolation in a hospital and suggestive treatment will effect a cure but exceptionally all therapy fails and induction of labor is indicated In a considerable percentage of cases spontaneous abortion occurs some time after cessation of the symptoms a phenomenon which has yet unexplained E L Cornell M D

Heynemann T The Prognosis and the Indications for the Interruption of Pregnancy in Hyperemesis Gravidarum (Ueber die Prognose und die Indikationsstellung zur Unterbrechung der Schwangerschaft bei der Hyperemesis gravidarum) *Zentralbl f Gynaek* 1929 p 2417

The author begins his discussion with the statement that in present day practice the interruption of pregnancy is generally unjustifiable unless if the local conditions allow it an attempt is first made to tide the patient over Medical treatment is best and offers a good prognosis in the large majority of cases Of fifty five cases treated medically by Heynemann interruption of the pregnancy was necessary in only two In all the condition was merely a simple hyperemesis gravidarum When there is a complicating pulmonary tuberculosis the hyperemesis with consequent malnutrition constitutes the indication for interruption of the pregnancy in doubtful cases

The author rejects the theory that acetonuria which indicates merely an insufficient carbohydrate intake is in itself an indication for interruption of pregnancy A woman may induce acetonuria artificially by eating only protein and fats and excluding carbohydrates from her diet Quantitative determinations of acetone are more informative especially quantitative determinations of the ketone bodies Acetonuria and ketonæmia are of diagnostic and prognostic value chiefly as warning signals and guides to therapy In the daily examination determinations of acetone and oxybutyric acid are sufficient but in order to avoid error the urine must be collected for twenty four hours

The lactic acid content of the blood is also related to the carbohydrate metabolism but as there are many possibilities for error the author does not determine it quantitatively On the other hand he attaches great importance to the demonstration of a considerable increase in the bilirubin content of the blood which in the majority of the cases is a true increase A bilirubinæmia of 2 mgm or more is to be regarded as suspicious Of clinical significance also is the appearance of albumin (1 per cent) and cylindrical casts in the urine A loss of eight up to 11 lb is not particularly dangerous in the absence of other symptoms Tachycardia and cerebral phenomena such as stupor delirium hallucina

Medical treatment may be effective in mild cases In severe ones it may do some good and give time for the institution of more effective measures Small doses of different endocrine preparations—ovary thyroid and hypophysis—given separately may be beneficial Among physical methods irradiation of the spleen is worth trying as it is harmless and is *more effective than the usual hæmostatics* Better results may be obtained by irradiation of the ovary but the doses should be small and the spleen should be irradiated at *the same time* *Radium therapy* gives results equal to those of roentgen therapy but is not entirely free from danger Curettage is often performed but its results are so slight that it should *be limited* to serious and urgent cases and even in these it should be used for purposes of diagnosis rather than cure Sometimes transfusion of blood is *of value as it modifies the coagulability of the blood* and prevents the return of hæmorrhage In five of the author's cases blood grafts that is small transfusions of from 5 to 10 c cm of blood proved beneficial This treatment is indicated particularly in the cases in which hæmatopoietic disharmony predominates In those in which endocrine disharmony predominates opotherapy is preferable

A. DREW C. MORGAN, M.D.

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Meigs J. V. Endometriosis the Occurrence of Endometriomata in the Abdominal Wall Four Cases Following Operations in the Female Pelvis *New England J. Med.* 1929 cc 1020

In one of the four cases of endometriosis reported by the author the endometriomata developed after a cæsarean section and in three they appeared after an operation on the ovaries and uterus

The development and the pathology of endo*metriosis were first described by* Sampson Meigs discusses Sampson's implantation theory and the theories attributing the condition to muellerian and wolffian rests He regards Sampson's theory as the most plausible

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The treatment of endometriosis is complete eradi*cation of the endometriomata* total ovarian ablation or roentgen ray or radium irradiation in doses which are sufficient to bring about the menopause Ovarian ablation and irradiation will cause atrophy of the growths with the eventual *subsidence of the symptoms*

T. FLOYD BELL, M.D.

Autopsy showed hæmoperitoneum from spontaneous laceration of the fundus of the uterus a probably myeloid reaction of the spleen and fatty degeneration of the liver and kidneys There was no macroscopic rupture of the uterus The villi had invaded the musculature The musculature showed necrosis and a decidual reaction and was much thinner than normal In the fundus where the changes were most marked the villi had passed completely through the wall their capillaries had dilated and there was a copious effusion of blood part of it certainly old blood in the tissues At the thinnest point there was an old scar with hæmorrhagic infiltration It appeared evident that since the last delivery and possibly before part of the uterine mucosa was lacking and the musculature was thinned Both of these defects were probably due to the repeated pregnancies The lack of a decidual reaction of the mucosa had led to the penetration of the musculature by the villi which had produced a decidual reaction at the expense of the muscle The erosion of the musculature by the villi and the hæmorrhage into the wall had finally broken the wall down at some point It is impossible to say whether the scar was the result of the old inflammation or of organization of a recent hæmorrhage but it was probably due to the former Finally under the influence of the labor pains the wall gave way and the intervillous spaces communicated freely with the peritoneal cavity

The author discusses the question as to whether the condition should be called a rupture of the uterus or an adherent placenta The placenta was certainly adherent as the villi penetrated the muscle deeply and caused profound changes within it but histologically the wall of the uterus was destroyed in places even though no rupture was visible macroscopically The clinical signs were first those of threatened rupture and then those of hæmoperitoneum not rupture

Similar cases are reported from the literature

AUDREY G MORGAN M D

D Erchia F Human Placentation (Contributo allo studio della placentazione umana) *Pathol di ginec* 1929 ix 1

The author made a careful histological study of the placenta at different stages of pregnancy He found that the human ovum becomes implanted in a small part of the cavity of the uterus the incubating chamber by a double active process—one process on the part of the uterine mucosa directed toward the ovum and the other on the part of the ovum directed toward the uterine tissue The first is a proliferation of the uterine mucosa which rises around the ovum and encloses it completely except for the pole opposite the implantation where there is an opening the so called foramen of perforation of the mucosa The second is an active proliferation on the part of the trophoblast which from the beginning buries its cells in the maternal tissues where they become transformed into syncytiform cell for the absorption of nutritive material for the ovum

This invasion of the maternal tissue by the fetal cells and their transformation into an absorbing organ was seen almost at the height of its development in an ovum three months and ter day old The photomicrographs made at this stage leave no doubt of the physiological importance of this tissue which originates from the hosts of cells of the cytotrophoblast of the attacking villi and becomes buried in the thick compact layer of the serotina If the serotina is not absolutely intact the invasion may become parasitic or even pathological as the result of an anomaly of development which causes atrophy or weakening of its compact layer or as the result of inflammation due to metritis or endometritis The uterine mucosa which surrounds the ovum is the decidua reflexa which is differentiated from the serotina and the decidua by its structure and its relation to the serotina

The author concludes from his work that the decidua vera is an important secreting organ for the nutrition of the ovum and the fetus The decidua serotina is the decidua primarily adapted to the implantation of the ovum With the decidua vera it contributes to the production of many nutritive gland and decidual cells for the nutrition of the ovum

The ovum is nourished by the secretion of the pregnant uterus and by soluble materials which are readily absorbed from the mother s blood In the first third of pregnancy it is nourished chiefly by materials secreted by the uterus and in the second third chiefly by materials from the mother s blood Near term the anatomical conditions are best adapted to an osmotic exchange between the maternal and fetal blood During the first two thirds of pregnancy this exchange is accomplished actively by the double layer of epithelium of the chorionic villi and by the placental enzymes while toward the end of pregnancy when Langhan s cell layer has disappeared and the syncytium is greatly reduced it is accomplished chiefly by osmosis

The double epithelial lining of the villi is adapted particularly to the absorption of the solid nutritive substances contained in the nutritive part of the placenta while the villi themselves are adapted almost exclusively to the exchange of gases between the mother and fetus Fuyimura s theory as to the significance of the vacuoles and vesicles of the syncytium requires further confirmation as the vesicles are said to pour an anti coagulating substance into the intervillous spaces and this fact in addition to being of importance functionally may be of importance in pathological conditions of the placenta and of pregnancy in general For a better understanding of the mechanism of organic exchange between the mother and fetus during the first few months of pregnancy and for the interpretation of certain vacuoles in the cellular layer of Langhans which were described by Fuyimura the intimate relations between the blood capillaries of the villi and the cellular layer of Langhans and the syncytium must be studied further The relations of the vessels to the decidual cells particularly those

tions or coma are of great importance as evidence of toxic injury of the liver and indicate immediate interruption of the pregnancy The same is true of increases in the temperature to 30 degrees for which there is no intercurrent cause When these signs appear as sequelæ of hyperemesis they are usually associated with acetonuria an increase in the bilirubinæmia and albuminuria Therefore they are of value in the differential diagnosis as regards intercurrent diseases On the other hand the acceleration of the pulse which is often advanced as an indication for the interruption of pregnancy dryness of the tongue and to a certain extent fœtor of the breath are not of much aid as they are present in every case as the result of increased irritability of the vegetative nervous system the loss of water and anacidity

In summarizing the author states that the symptoms indicating atrophy and toxic degeneration of the liver are definite indications for immediate interruption of pregnancy These are cerebral symptoms (stupor delirium hallucinations and coma) neuritis (especially optic neuritis) and a rise in the temperature to about 39 degrees An increase in the bilirubin in the blood and the appearance of albumin and cylindrical casts in the urine indicate in doubtful cases that the condition is due to the hyperemesis and not to some intercurrent cause The occurrence of acetonuria and especially the quantitative determination of the ketone bodies in the blood are also of great aid but in connection with these the carbohydrate intake must be taken into consideration An increase in the bilirubin to 2 mgm per 100 c cm with an associated albuminuria (more than 1 per cent) and cylindruria indicate that the condition is severe When the bilirubin alone is increased to more than 2 mgm per 100 c cm and when there is a severe ketonæmia of over 300 mgm per 100 c cm the advisability of interrupting the pregnancy is determined by the general condition FUETH G)

Irving F C and Taylor J V The Removal of Blood Plasma and the Re Infusion of Corpuscles in the Treatment of the Convulsive Toxæmia of Pregnancy *Am J Obst & Gynec* 1929 xvii 767

The procedure discussed by the authors is used in conjunction with the Stroganoff treatment in eclampsia One thousand cubic centimeters of blood are withdrawn and centrifugalized and the plasma is withdrawn The corpuscles are then washed once with normal saline solution suspended in 1 000 c cm of the saline solution and re infused This has been done sixteen times in the cases of fourteen patients

In five cases of eclampsia prompt recovery followed In four cases of pre eclamptic toxæmia in which the blood pressure remained elevated following delivery the treatment described reduced the hypertension and resulted in the disappearance of albumin from the urine In chronic nephritis it was only temporarily beneficial In five such cases there was symptomatic improvement with disappearance of the œdema and an increase in the output of urine

The red blood cells have shown little change in number following the treatment

In the discussion of this report Polak said that the management of eclampsia is essentially medical For a number of years he removed from 800 to 1 000 c cm of blood and re infused with saline solution Many of the patients recovered He now re infuses with glucose solution and finds that recovery results more frequently E L Cornell M D

Farnmore R H Eclampsia and Its Renal Lesion *Obst & Gynæc Brit Emp* 1929 xxxvi 341

In the author's opinion the renal and hepatic lesions in pre eclamptic and eclamptic toxæmias are produced mechanically by interference with the blood flow through the liver and kidneys resulting from an attempted diuresis on the part of the kidneys to overcome the tendency toward oliguria and anuria Engorgement of the medulla occurs with paling of the cortex and if the process is continued long enough ischæmic necrosis of the uriniferous tubules develops In many cases the circulation becomes re established and diuresis follows evacuation of the uterus but in others the condition does not become rectified The author cites experimental and clinical evidence Abraham A Brauer M D

Bolaffio M Erosion of the Fundus of the Uterus in the Seventh Month of Pregnancy Hæmoperitoneum (Usura del fondo dell' utero al settimo mese di gravidanza emoperitoneo) *Riv ital di ginec* 1929 viii 683

The case reported was that of a woman thirty four years of age who had had six pregnancies four of them carried to term one ending in abortion in the eighth month and one ending in abortion in the seventh month The last abortion had occurred in December 1926 The placenta was delivered manually This abortion was followed by puerperal endometritis

Two years later the patient was admitted to the hospital in the seventh month of pregnancy The course of this pregnancy had been normal up to March 21 1928 when soon after running she was seized with abdominal pain The pain became worse during the night and on the following evening it was very severe and associated with pallor copious sweating vomiting and attacks of fainting When the patient reached the hospital she was very pale dyspnœic and agitated and her pulse could not be felt The uterus was contracted and the fundus was a finger's breadth above the umbilicus Dullness in the flanks suggested a free effusion An incisure could be felt at the fundus with a soft body in front of it A diagnosis of rupture of the fundus with protrusion of the placenta and hæmoperitoneum was made Death occurred half an hour after the patient's admission while preparation was being made for operation

is shortest in the cases of women with Basedow s disease and may be shortened by the breathing of carbon dioxide The after pains are not felt so acutely Immediately after awakening the patient may have something to drink The amnesia is always complete Vomiting occurs rarely headache never Excitation is rarer than following the use of scopolamine Sometimes the patient complains of an unpleasant taste

Cases of death from the drug have been reported by Haberer (double the permitted dosage) Hart tung (overdosage by summation of various toxic agents) Bumm (cause unknown) and a few others

The child is not affected It nurses normally In the presence of severe constitutional anomalies greater caution is perhaps demanded

Pernocton may be used also for complete and prolonged narcosis in such conditions as eclampsia and tetanus When it is employed with ether for gynecological operations the quantity of ether may be reduced by from 50 to 70 per cent

In conclusion the author states that he believes pernocton twilight sleep will meet the requirements when scopolamine twilight sleep and the Gwath mey method are unsatisfactory Binz (G)

Balard P and Mahon R Six Cases of Evacuation of the Uterus at a Chosen Time by the Aid of Spinal Anæsthesia (A propos de six cas d évacuation extemporanée de l utérus sous rachianesthésie) *Gynéc et obst* 1929 xix 91

Spinal anæsthesia by functionally blocking the posterior medullary roots the route of tonus renders the neck of the uterus completely atonic and even overcomes pathological hypertonicity From their experience with it the authors conclude that it facilitates considerably the dilatation of the normal or hypertonic cervix but has no effect on the cervix with infectious cicatricial or neoplastic rigidity

In the cases in which Balard and Mahon attempted cervical dilatation with spinal anæsthesia at the beginning of labor the results were not encouraging They therefore believe that the procedure should be restricted to cases in which the cervical orifice is well effaced and slightly dilated

The advantages claimed for the Delmas method are that it allows complete dilatation of the cervix even in women not in labor version by internal manipulation and the immediate extraction of the infant The authors tested this method in cases in which it seemed indicated

The spinal anæsthesia the manual dilatation and version by internal manipulation are sources of danger The authors sought to obviate the dangers of version They thought that if complete manual dilatation were accomplished uterine retraction which is always marked after spinal anæsthesia would tend to engage the fetus and that if bearing down by the patient at command was added spontaneous delivery might be obtained or labor might be terminated by the simple use of forceps

The results were far from what they expected In three of the six cases there was a complete laceration extending far into the vaginal vault In the cases in which the cervix was not injured the weight of the fetus did not exceed 1 800 gm In those with extensive laceration it was 2 kgm 300 gm 3 kgm 770 gm and 2 kgm 820 gm In two cases in which the fetus weighed 1 800 gm and 2 kgm 770 gm respectively version was remarkably easy the bag of waters remained intact up to the moment the foot was grasped In a case in which the fetus weighed 2 kgm 820 gm version was impossible eleven hours after the rupture of the membranes In a case in which the fetus weighed 2 kgm 300 gm version was difficult a few minutes after the discharge of the waters In one case version was performed fifty two hours after the rupture of the membranes it was believed to be possible because of the small size of the fetus which weighed 1 kgm 230 gm

When the Delmas procedure is employed there is absolute apyrexia following delivery Most of the women even those with serious lesions of the soft parts had a temperature curve below that of women delivered normally The refinement and rapidity of the Delmas method appear seductive if version is not uncertain in a uterus which has discharged the waters and if the artificial dilatation is not associated with too extensive and serious lacerations of the cervix

The authors are not in favor of the Delmas procedure for the interruption of pregnancy in cases of contracted pelvis In the cases of primiparæ it is often useless and is doubly uncertain since if it is used too late it will be difficult and if it is used too early the child will be feeble In the cases of multiparæ labor is usually rapid and easy therefore the innocuous common method is preferable

Finally there are cases which demand rapid evacuation of the uterus If the infant is jeopardized and conditions do not permit immediate cæsarean section the authors believe the Delmas procedure is justified When the labor starts prematurely and the infant is small descends easily and requires no extreme dilatation for its extraction they believe it is the procedure of choice

It is emphasized that marked posthæmorrhagic hypotension is a contra indication to spinal anæsthesia When retroplacental hæmorrhage occurs at the onset of labor and the child is alive the authors perform cæsarean section but for cases of intoxication of pregnancy in which the uterus must be emptied as rapidly as possible and little account is taken of a fetus which is small and intoxicated they believe spinal anæsthesia is indicated especially on account of the usual hypertension in such cases In all cases in which the course of pregnancy must be interrupted the use of the Delmas method depends upon the vascular equilibrium The oscillometric values together with the size of the fetus constitute the best criteria as to the type of intervention

The authors believe that notwithstanding its dangers the procedure of Delmas should not be

found in the last third of pregnancy in the serotina when the secretion of the decidua has stopped and all of the nutritive materials for the fetus come from the mother's blood suggest either an antitoxic action on the part of the decidua or the production of an internal secretion

It will require further study to determine whether the vascular relations noted by the author between the decidual cells arranged around the central vessel are found in all stages of pregnancy or whether they appear in the last third when an antitoxic or an endocrine function becomes more necessary There is an abundant infiltration of small cells and lymphatic nodules in the different deciduæ not merely as Irassi asserts near the insertion of the ovum These are adapted in part to the production of antibodies and in part particularly in the decidua vera are made up almost exclusively of a decidual reticulum from which the large decidual stellate cells originate The author believes that without doubt the decidual cells have a double origin that they are derived from lymphocytes and from fixed connective tissue cells In the decidua vera those of lymphocytic origin predominate whereas in the serotina and reflexa those originating from fixed connective tissue cells predominate

AUDREY G MORGAN M D

Duca A The Diagnosis of Anencephaly During Pregnancy (Per la diagnosi di anencefalia fetale in gravidanza) *Clin ostet* 1929 xxvi 130

So far as the author knows the case reported in this article is the first case in Italy in which the diagnosis of anencephaly was made by physical examination and roentgen examination was merely confirmatory The patient was a primipara who came for examination in the beginning of the ninth month of pregnancy according to the menstrual date The uterus was about the size of an eight months pregnancy The small parts of the fetus could be felt high up in the uterus and a little to the left The back was turned to the right but when it was traced up no hard part could be felt in the lower part of the uterus where the head should have been under these conditions On vaginal examination something rather soft was felt There was no groove between the back of the fetus and the presenting part at the entrance of the pelvi

These findings suggested anencephaly but there was no hydramnios According to Eerland hydramnios occurs in 59 per cent of cases of anencephaly Negri and Viana's sign—active movements of the fetus when the base of the skull is stimulated on abdominal or vaginal examination—was negative To confirm the diagnosis a roentgen examination was made The roentgenogram showed no sign of the vault of the skull

As there did not seem to be any indication for abortion the pregnancy was allowed to go on to term At term a fetus with a typical frog's head that is with no vault to the skull was delivered artificially

AUDREY G MORGAN M D

LABOR AND ITS COMPLICATIONS

Vogt E Further Experiences with Pernocton in Obstetrical Twilight Sleep (Weitere Erfahrungen mit Pernocton beim geburtshilflichen Daemmerschlaf) *Zentralbl f Gynack* 1928 p 2802

This article which is based on 500 cases of pernocton twilight sleep is a continuation of a previous report by the author

Pernocton is a derivative of barbituric acid It is not a narcotic but a hypnotic (soporific) It may be injected intravenously and is claimed to exert no by effects since because of the bromallyl radical it is broken down in the body into two indifferent substances The vital functions are scarcely affected by it at all When medium doses are injected rapidly and when large doses are given collapse may result. The cause of the stage of excitation is still unexplained Studies by Keeser showed that barbituric acid acts on the thalamus and corpus striatum, and does not affect the cerebral hemispheres the cerebellum or the medulla oblongata As the drug is injected intravenously any subsequent influencing of its effect is impossible When operative termination of the labor is anticipated the author does not use pernocton

In the preparation of the patient verbal suggestion is used From the beginning the patient is under the observation of the physician A suggestive effect is obtained also by having present a patient who has already been delivered under pernocton twilight sleep Additional medication besides pernocton is disadvantageous Vomiting is best prevented by having the stomach empty Artificial dentures should be removed The effect of pernocton is favored by placing the patient in a darkened quiet room.

The injection is administered toward the end of the period of dilatation 1 c cm of the pernocton being given for each 12 5 kgm of body weight provided the general condition is normal However the injection may be stopped when the patient becomes uncertain in her counting If necessary the dosage may be increased by from 1 5 to 2 c cm (inject slowly) After from two to three hours at the earliest another 1 or 2 c cm may be injected if the patient is restless The injection should be made into the distended vein slowly at the rate of 1 c cm per minute measured exactly

The patient drops asleep quickly often with a transient period of convulsive movements After such movements she assumes her usual sleeping posture All irritation are to be avoided

In twilight sleep there is an inhibition of cerebral function This condition lasts for two or three hours During the pains the patient is restless and sometimes complains loudly The pains are usually not affected but if they are pituitary extract may be given under the same circumstances as when twilight sleep is not induced During the passage of the head ether may be added

After delivery the sleep continues for from one to four hours and is quiet and deep This after sleep

is shortest in the cases of women with Basedow's disease and may be shortened by the breathing of carbon dioxide The after pains are not felt so acutely Immediately after awakening the patient may have something to drink The amnesia is always complete Vomiting occurs rarely headache never Excitation is rarer than following the use of scopolamine Sometimes the patient complains of an unpleasant taste

Cases of death from the drug have been reported by Haberer (double the permitted dosage) Hartung (overdosage by summation of various toxic agents) Bumm (cause unknown) and a few others

The child is not affected It nurses normally In the presence of severe constitutional anomalies greater caution is perhaps demanded

Pernocton may be used also for complete and prolonged narcosis in such conditions as eclampsia and tetanus When it is employed with ether for gynecological operations the quantity of ether may be reduced by from 50 to 70 per cent

In conclusion the author states that he believes pernocton twilight sleep will meet the requirements when scopolamine twilight sleep and the Gwathmey method are unsatisfactory Binz (G)

Balard P and Mahon R Six Cases of Evacuation of the Uterus at a Chosen Time by the Aid of Spinal Anæsthesia (A propos de six cas d évacuation extemporanée de l'utérus sous rachianesthésie) *Gynéc et obst* 1929 xix 91

Spinal anæsthesia by functionally blocking the posterior medullary roots the route of tonus renders the neck of the uterus completely atonic and even overcomes pathological hypertonicity From their experience with it the authors conclude that it facilitates considerably the dilatation of the normal or hypertonic cervix but has no effect on the cervix with infectious cicatricial or neoplastic rigidity

In the cases in which Balard and Mahon attempted cervical dilatation with spinal anæsthesia at the beginning of labor the results were not encouraging They therefore believe that the procedure should be restricted to cases in which the cervical orifice is well effaced and slightly dilated

The advantages claimed for the Delmas method are that it allows complete dilatation of the cervix even in women not in labor version by internal manipulation and the immediate extraction of the infant The authors tested this method in cases in which it seemed indicated

The spinal anæsthesia the manual dilatation and version by internal manipulation are sources of danger The authors sought to obviate the dangers of version They thought that if complete manual dilatation were accomplished uterine retraction which is always marked after spinal anæsthesia would tend to engage the fetus and that if bearing down by the patient at command was added spontaneous delivery might be obtained or labor might be terminated by the simple use of forceps

The results were far from what they expected In three of the six cases there was a complete laceration extending far into the vaginal vault In the cases in which the cervix was not injured the weight of the fetus did not exceed 1 800 gm In those with extensive laceration it was 2 kgm 300 gm 3 kgm 770 gm and 2 kgm 820 gm In two cases in which the fetus weighed 1 800 gm and 2 kgm 770 gm respectively version was remarkably easy the bag of waters remained intact up to the moment the foot was grasped In a case in which the fetus weighed 2 kgm 820 gm version was impossible eleven hours after the rupture of the membranes In a case in which the fetus weighed 2 kgm 300 gm version was difficult a few minutes after the discharge of the waters In one case version was performed fifty two hours after the rupture of the membranes it was believed to be possible because of the small size of the fetus which weighed 1 kgm 230 gm

When the Delmas procedure is employed there is absolute apyrexia following delivery Most of the women even those with serious lesions of the soft parts had a temperature curve below that of women delivered normally The refinement and rapidity of the Delmas method appear seductive if version is not uncertain in a uterus which has discharged the waters and if the artificial dilatation is not associated with too extensive and serious lacerations of the cervix

The authors are not in favor of the Delmas procedure for the interruption of pregnancy in cases of contracted pelvis In the cases of primiparæ it is often useless and is doubly uncertain since if it is used too late it will be difficult and if it is used too early the child will be feeble In the cases of multiparæ labor is usually rapid and easy therefore the innocuous common method is preferable

Finally there are cases which demand rapid evacuation of the uterus If the infant is jeopardized and conditions do not permit immediate cæsarean section the authors believe the Delmas procedure is justified When the labor starts prematurely and the infant is small descends easily and requires no extreme dilatation for its extraction they believe it is the procedure of choice

It is emphasized that marked posthæmorrhagic hypotension is a contra indication to spinal anæsthesia When retroplacental hæmorrhage occurs at the onset of labor and the child is alive the authors perform cæsarean section but for cases of intoxication of pregnancy in which the uterus must be emptied as rapidly as possible and little account is taken of a fetus which is small and intoxicated they believe spinal anæsthesia is indicated especially on account of the usual hypertension in such cases In all cases in which the course of pregnancy must be interrupted the use of the Delmas method depends upon the vascular equilibrium The oscillometric values together with the size of the fetus constitute the best criteria as to the type of intervention

The authors believe that notwithstanding its dangers the procedure of Delmas should not be

entirely discarded but should be tested out in carefully selected cases FLORENCE A CARPENTER.

Delmas P One Year of the Practice of Evacuation of the Uterus at the Desired Time at the End of Pregnancy (Un an de pratique d'évacuation extemporanée de l'utérus en fin de grossesse) *Rev franc de gynéc et d'obst* 1929 xxiv 193

Delmas regrets the inaccurate and exaggerated reports on his method that have appeared in the public press and comments on the criticisms, favorable and unfavorable made by his colleagues in various parts of the world It appears that many obstetricians as well as the general public have a misconception of his aims He refers to his original communication and asks that it be read again before further tests of his method are made All that he expects of spinal anæsthesia is a modification of the tonus of the uterus at the end of pregnancy Hence reports of its failure to produce relaxation of the cervix in the middle of pregnancy or during parturition when the cervix is œdematous are beside the point Moreover while it suppresses tetanic contractions it does not alter normal contraction or retraction of the uterus but stimulates them The uterine muscle must be healthy and able to react to normal innervation

In the two cases reported in the literature in which death resulted from hæmorrhage due to uterine inertia amniotic infection was present Delmas is of the opinion that the spinal anæsthesia is not responsible for inertia

Another misunderstanding concerns the rapidity of the cervical dilatation Although as a matter of fact dilatation is usually obtained in a few minutes sometimes in a few seconds Delmas has never emphasized speed The advantage of his procedure is the free choice of the hour of delivery not the duration of the intervention

The extraction is always accomplished by a classical maneuver—version the application of forceps or embryotomy whichever the case may demand Version is greatly facilitated by the spinal anæsthesia

Delmas is far from considering his method applicable to all cases In the last twelve months he has used it in 40 of 700 deliveries (about 5 per cent) He does not employ it when a physiological delivery may be expected In the 40 cases cited the indication was pelvic abnormality in 15 cases amniotic infection in 8 placenta prævia in 6 prolapse excessive size of the fetus and toxæmia of pregnancy in 2 cases each and eclampsia brow presentation suffering of the fetus habitual fetal death and hypotrysole in 1 case each Fifteen of the interventions were performed on primiparæ and 25 on multiparæ The youngest patient was nineteen and the oldest forty two years of age Half of the women were not in labor In 10 cases the membranes were already ruptured In 1 case they had broken four days previously Dilatation usually required from thirty seconds to six minutes but in the case of 1 primipara it required fifteen minutes Version was done in 30 cases and forceps were used in 10 (in 6 on account of close engagement in the cavity and in 4 on account of troublesome retraction of the uterus) Delivery was artificial in 2 cases spontaneous in 4 and natural in 34 It was completed in from forty five seconds to ten minutes Perineal laceration occurred in 10 cases and cervical laceration in 9 Suturing was required in only 3 cases

Of the 40 infants 32 lived Ten of these cried at birth and the remaining 22 were resuscitated One bled to death from placenta prævia Another of those that died was the child of a woman with a history of habitual fetal death Two died from toxæmia of pregnancy and 2 from injury and amniotic infection These infants were extracted dead or dying The 2 fetal deaths that took place during the intervention were due to the narrowness of the birth passage One woman died of puerperal septicæmia six days after delivery

FLORENCE A CARPENTER.

Kraul L The Indications for Cæsarean Section (Indikationen zum Kaiserschnitt) *Wien klin Wchnschr* 1928 ii 1753

In cases of contracted pelvis it is not always easy to determine the prognosis The measurement of the conjugate the nature of the pelvic anomaly the position and attitude of the fetus the size rigidity and configuration of the head the presentation of the sagittal suture the time of the breaking of the amniotic sac and the amount of the amniotic fluid must be considered Of most importance is the intensity of the labor pains By the use of Walcher's suspension and the proper administration of ecbolics many women can be spared cæsarean section Spontaneous delivery has occurred in cases in which the child weighed 3 000 gm and the conjugate measured 7 5 cm and in cases in which the child weighed 3 500 gm and the conjugate was between 8 5 and 7 5 cm Of 929 cases of contracted pelvis with a conjugate under 10 cm cæsarean section was done in only 70 In the others delivery was effected by the normal route with an infant mortality of only 2 9 per cent

The Hofmeier impression test cannot be depended upon with certainty Cases are not infrequent in which the strength of the labor contractions is sufficient to bring the head to the entrance when the impression test was unsuccessful Every woman with a conjugate of less than 10 cm should be delivered in a hospital

In placenta prævia section should be done only when the fetal indication is given—the cases of elderly primiparæ with a child at full term In 50 per cent of cases of placenta prævia the child is not viable

Also in eclampsia cæsarean section is indicated only in the cases of elderly primiparæ with a full term uninjured child hence only exceptionally It is not speedy delivery but speedy treatment which is of chief importance in eclampsia

In cases of premature separation of the placenta with high grade anæmia cæsarean section quickly done is a life saving procedure Extremely rarely is the indication given by difficulties caused by the soft parts cicatricial strictures of the cervix and tumors When there is a carcinoma of the portio section should be followed by the radical operation

Less frequent indications in the cases reviewed by the author were a tracheotomy retrofixation of the uterus a severe toxicosis of pregnancy with pulmonary œdema threatening life and hydrothorax and a vesicovaginal fistula which had been operated upon

As a rule the transperitoneal cervical section should be done if it is possible to wait until an adequately developed lower segment of the uterus provides sufficient room for it When delay is impossible because of prolapse of the cord or early rupture of the amniotic sac and when access is made difficult by a tumor the classical operation is to be considered Experience has shown that extraperitoneal section gives no greater protection against infection than the transperitoneal method Sectio vaginalis appears never to be necessary Conservative methods such as the use of rubber balloons and multiple incisions are preferable O O Fellner (G)

NEWBORN

Kaplan A The Effect of Irradiation of the Ovary on the Offspring (Der Einfluss der Ovarialbestrahlung auf die Frucht) *Gynek* 1928 vii 563

The first part of this article is a brief review of the literature on the possibility of injury to offspring by the roentgen rays (Martius Nuernberger and Dryoff Kraul Penzoldt Krause and Friedrich Schmidt Werner and others) The author reports three cases in which pregnancy was preceded by roentgen treatment giving the roentgen dosage in each

Case 1 A stimulating roentgen irradiation was given a woman twenty three years of age because of congenital atrophy of the uterus and dysfunction of the ovaries Seven weeks later the patient became pregnant The pregnancy was terminated by a normal labor with the delivery of a healthy child

Case 2 In the case of a woman thirty years of age a diagnosis of hæmorrhagic metro endometritis was made and irradiation of the ovary (with a filter of 0 5 mm zinc and 1 0 mm of aluminum a distance of 25 cm a field 9 by 12 in and half a skin unit dose for each ovary) was given to obtain temporary amenorrhœa Pregnancy began about three months later and was terminated by the normal delivery of a healthy child

Case 3 A woman twenty seven years old was treated for myeloid leukæmia by irradiation of the spleen This treatment caused improvement About three months later pregnancy was diagnosed which must have existed at the time of the irradiation Because of the fear that the fetus might have been injured by the irradiation the pregnancy was interrupted The fetus was found to be both macroscopically and microscopically normal The mother died later of leukæmia

The author concludes that roentgen irradiation is not necessarily injurious to the offspring

A Bock (G)

Hottinger A The Care of Premature Infants in the Basle Children s Hospital Results in the Period from 1922 to 1927 with Particular Regard to Rickets in the Prematurely Born (Ueber die Aufzucht fruehgeborener Kinder im Basler Kinderspital und deren Ergebnisse von 1922 bis 1927 mit besonderer Beruecksichtigung der Fruehgeburtenrachitis) *Abhandl a d Kinderheilk* 1928 xx 1

The introduction to this report deals with the frequency of premature birth in Basle and its influence on infant mortality The author s experience in the care of normal and sick premature babies over a period of five years is discussed with particular attention to rickets an especially typical disease of prematurely born infants

The first part of the article is devoted to the care and rearing of the premature infant In the five years from 1922 to 1927 the mortality under the regime described was 22 4 per cent If the infants that died on the first day of life are excluded the mortality was 17 per cent The causes of death were aspiration hæmorrhages icterus and bronchopneumonia During a stay in the hospital ranging from three to six months the morbidity was 55 per cent The most important cause of the morbidity was dyspepsia the mortality of which was low Next in importance were infectious diseases with a high mortality The former is not entirely avoidable but can be cured In cases of infection the strictest isolation is necessary

The second part of the article treats of rickets in premature infants The predisposition of premature infants to rickets is discussed and the course of the condition in such infants is compared with its course in children born at term In premature infants its incidence is 90 per cent The onset is in direct relation to the absolute gain in weight Seasonal influence is slight With regard to early diagnosis the author states that the disease begins at the typical site with softening of the parietal bone In the premature infant the course is the same as in the child born at term Congenital soft skull is found in 10 per cent of premature infants and postnatal malacia of the skull occurs in more than 50 per cent Roentgen diagnosis is much more difficult in premature infants than in infants born at term In the beginning gross changes in the epiphyses are absent and other typical characteristics are lacking Serum analysis shows lowering of the serum phosphate and calcium When a cure is obtained they return to the normal Analysis of the minerals of the serum is of no value for early diagnosis Urine examination in rickets in the premature infant shows an increase

in the excretion of organic acids This determination is of value for the diagnosis of rickets

Histological examination in the cases of thirty three premature infants with rickets showed no differences in the bone changes as compared with those occurring in rickets in infants born at term An early diagnosis based on the initial softening of the upper margin of the lambdoidal suture appears to be safe

The last part of the article deal with therapeutic and prophylactic measures for rickets Only slight results were obtained with phosphorus or calcium lactate Phosphorus and cod liver oil with the addition of calcium lactate exhibited a definitely demonstrable but an insufficient activity Egg yolk and quartz lamp irradiation were without effect The best treatment was found to be irradiation of the body for six weeks or the administration of irradiated food

For the prevention of rickets various remedies and various types of irradiation were tried but were not successful However they delayed the appearance of the condition and rendered its course milder

In conclusion the author emphasizes that there is in rickets a congenital primary insufficiency of the bony tissue and that therefore rickets in the premature infant cannot be designated as a deficiency disease or avitaminosis He has found that rickets in premature infants and rickets in infants born at term are absolutely identical VON WEINZIERL (G)

Valentin B A Further Contribution on Birth Paralysis (Ein weiterer Beitrag zur Kenntnis der Geburtslähmung) *Ztschr f orthop Chir* 1929 li 44

In the case of a male infant which had been revived by manual swinging methods (Schultz) and had no other history of birth trauma both arms were affected at first by a flaccid paralysis and in the course of a month developed a spastic condition The arms were held above the horizontal level and at the elbows were flexed at an acute angle toward the head The left hand was over-extended and the fingers were fixed in strong flexion The child died when it was three months old

Autopsy disclosed a pathological area from 2 to 3 cm in length in the posterior columns of the spinal cord situated somewhat more on the left than the right side extending from the sixth cervical to the first dorsal segment and involving most markedly the region of the seventh and eighth cervical segments It showed also malacia of the entire gray substance and of the dorsal zone of the posterior column which was in contact with the pia mater and covered with glia and connective tissue Beyond the pathological area the cells of the anterior horn had in large measure disappeared and those remaining were shrunken

While it is conceivable that this condition resulted from trauma caused by the Schultz maneuver the absence of hæmorrhagic residue and the presence of widely separated areas of gliosal proliferation such as are found in general infections (typhus) render it more probable that the cause was an infection The mother had been given three anti typhus injections during the pregnancy Moreover there were certain malformations of the central nervous system (scattered detached areas of anterior horn cells atypical form of the olivary body) which may be considered as due to a still earlier disturbance The cause of the lesion was undoubtedly an injury of the anterior horns occurring in fetal life Since in a case previously reported by the author a similar syndrome resulted from other causes it must be concluded that brachial paralysis may be produced by various factors The disturbances may be caused not only by peripheral injuries of the plexus but also by intra uterine and intrapartum injuries of the spinal cord STEVENS (J)

Adair F L and McDonald R E Varix of the Umbilical Cord with the Report of a Case *Am J Obst & Gynec* 1929 xvii 836

In a review of the literature on cord anomalies the authors were able to find only three cases of varix The largest varix was the size of a hen's egg One case of false aneurism reported was probably a varix. In five cases of varicose tumors on record three types were recognized Three of the tumors were of the thin walled type with a relatively large cavity one was a small tumor with thickened walls which contained organized clotted blood and one was simply a dilatation of the vein as it entered the umbilicus

In the author's case a large amount of old blood discoloring the amniotic fluid was released when the membranes ruptured early in the second stage of labor The fetus was stillborn and pallid It had been exsanguinated by rupture of a large varix of the umbilical cord The time of rupture cannot be definitely stated but was probably about two or three days before the onset of labor when the mother first noticed cessation of the fetal movements This case of ruptured umbilical varix brings the total number on record up to five

The tumor measured 12 2 cm from the fetal pole to the placental pole and 9 8 cm through its greatest breadth As these measurements were taken when the varix was in a state of partial collapse it was probably considerably larger when it was distended with blood before the rupture

E I CORNELL, M D

GENITO-URINARY SURGERY

ADRENAL KIDNEY AND URETER

Chevassu M Arteriography of the Kidney Circu lation (Artériographie de la circulation rénale) *J d urol méd et chir* 1929 xxvii 348

Chevassu reviews a photographic study of the renal circulation following the injection of a 100 per cent sodium iodide solution into the abdominal aorta which was made by Dos Santos Lamas and Caldas of Lisbon Such an injection gives roentgen opacity for only a few seconds The roentgenograms were taken instantaneously (eight tenths of a sec ond) at the moment of injection As the injection causes violent pain anæsthesia was necessary but Dos Santos says that they never had any accidents from the method

The author describes in detail a roentgenogram taken by the investigators mentioned in a case of tuberculosis of the left kidney The injection was made by the lumbar route according to the tech nique used for splanchnic anæsthesia It showed the arterial circulation of the right kidney very clearly but revealed that of the left kidney less dis tinctly Dos Santos insisted that the difference in dicated a lesion of the left kidney and operation verified his opinion He believes that the functional deficiency often associated with renal tuberculosis when the lesions are still very slight is due to im pairment of the arterial circulation in the diseased kidney

Chevassu concludes that the technique described represents an interesting if rather audacious method of exploration in urinary surgery

AUDREY G MORGAN M D

Marion Pyelography and Pyeloscopy (Pyélographie et pyéloscopie) *J d urol méd et chir* 1929 xxvii 310

Marion reports the case of a man thirty five years of age who for two years had had attacks of very violent pain in the left kidney which had become progressively more frequent The urine was clear and there was no history of hæmaturia or the pas sage of calculi A roentgen examination for calculus was completely negative Pyelography then gave a very distinct picture of hydronephrosis When the patient was informed of this finding he said that another surgeon had suspected hydronephrosis but as the result of a pyeloscopic examination had con cluded that he was mistaken The patient showed the author the sketch based on the pyeloscopic ex amination and the author agreed that it did not indicate the presence of hydronephrosis

Marion concludes that the results of pyeloscopy are uncertain as there is so strong a subjective ele ment in their interpretation He believes that the advisability of an operation on the kidney should not be determined from the pyeloscopic picture alone and that in every case a pyelogram should be made to record the findings definitely

AUDREY G MORGAN M D

Grasso F M There Is No Ascending Infection of the Kidney (Inexistence de l infection rénale as cendante) *J d urol méd et chir* 1929 xxvii 200

In an article on tuberculosis of the urinary tract which was published in 1908 the author maintained that tuberculosis is never propagated from the blad der to the kidney by way of the ureter In this article he cites experimental work of his own and that of other investigators which shows that no form of infection is transmitted in this way

According to the classical theory lesions of the medulla are ascending and lesions of the cortex are descending but experimental work has shown that cortical lesions predominate when the infection is very virulent and medullary lesions predominate when the infection is not very virulent It has shown also that injection of bacteria into the uri nary tract does not cause infection if the epithelium is normal Therefore before infection can take place absorption of the bacteria into the circulation must be rendered possible by injury to the epithelium The normal pavement epithelium of the bladder prevents absorption but when this protective layer is injured by retention of urine absorption is fa vored Soon after injecting bacteria into a bladder distended by retention of urine the author found the bacteria in the heart blood This proves that they are carried to the kidney by way of the circula tion If the bladder and ureter are normal there is no reflux of fluid from the bladder into the ureter

In cases of enlargement of the prostate and re tention of urine there is always a predisposition to kidney infection Therefore a very slight trauma such as that of an unclean catheter may result in infection This is indicated by the fact that cathe terization is often followed by serious general symp toms with or without fever If bacteria are absorbed through an injured bladder epithelium and carried to the kidney they will be eliminated with the urine if the kidney is perfectly normal but if a lesion of the kidney is present they will bring about an in fection which is medullary or cortical depending upon the virulence of the infection

AUDREY G MORGAN M D

Beer E Tuberculosis of the Kidney *J Am M Ass* 1929 xcii 1912

Beer reviews 300 cases of renal tuberculosis seen in a period of thirty years The condition is surgical when it is limited to one kidney The most charac

teristic symptoms are urgency frequency and burning with pyuria and hæmaturia In every case of persistent pyuria a cultural study should be made Renal tuberculosis is most common between the ages of twenty and forty years

In some cases tuberculosis of the kidney may simulate nephrolithiasis by causing colicky pain in the kidney with bleeding In another group it may suggest neoplasm but the hæmorrhage is more marked A confusing type of case is one with persistent unexplainable pyuria but without suggestive renal symptoms

As a rule the general health is not impaired early but the patient gradually loses weight from nocturia and loss of sleep and death results after from one to two years The diagnosis is made by the cystoscopic examination and the finding of the tubercle bacillus

Cystitis secondary to renal tuberculosis is characterized by hyperæmia hæmorrhagic spots œdema of the ureteral orifices and the presence of tubercles and overhanging ulcers Strictures form readily in tuberculous ureters

Cystography and pyelography are at best only of corroborative value In some cases an exploratory operation may be found necessary for a positive diagnosis

Nephrectomy with removal of the upper part of the ureter is absolutely indicated in all unilateral cases When pulmonary tuberculosis is present the operation should be performed under spinal anæsthesia After the operation the patient must receive good care and must be kept under observation

BENJAMIN T ROLLER M D

Randall A X Ray Destruction of the Kidney *Ann Surg* 1929 lxxxix 947

Randall reports the case of a man who two years after an operation for acute appendicitis was reoperated upon because of the persistence of symptoms in the lower part of the abdomen At the second operation a hard mass was discovered behind the posterior peritoneum and on removal was found to be a ureteral stone The establishment of extraperitoneal drainage resulted in a persistent urinary fistula

Two months later a very difficult nephrectomy was done on the right side Because of dense adhesions the kidney was removed in three pieces Six months later a urinary sinus still persisted As no communication could be demonstrated between the bladder and the fistula it was supposed that a portion of the kidney still remained and was functioning through the fistula To obviate the necessity for further operative interference two courses of intense X ray therapy were given to the kidney area This was followed by a marked diminution in the secretion but at the time of the report the fistula had not completely healed

The author cites the work of Hartman and Kline who have caused cessation of kidney secretion by X ray treatment I J SHAPIRO M D

Smirnov A Two Stage Nephrectomy in Pyonephrosis (Ueber zweizeitige Nephrektomie bei Pyonephrosen) *Urologia* 1928 v 40

Even though according to Fedorov the secondary nephrectomy in cases of pyonephrosis is far more difficult than the primary operation both for the surgeon as regards the technical difficulties and for the patient as regards toleration of the operation there are certain cases that can be cured only by means of a two stage nephrectomy The author reports two such cases In one primary nephrectomy was contra indicated by cachexia myocarditis, emphysema and reduction in the total function of the kidneys and in the other by a poor general condition myocarditis and thrombosis of both lower extremities In both the subcapsular nephrectomy of Fedorov resulted in a cure

E. BANYER VOIGT (Z)

Marion H A Critical and Experimental Study of Transverse Wounds of the Ureter with Surgical and Therapeutic Deductions (Étude critique et expérimentale des plaies transversales de l'uretère déductions chirurgicales et thérapeutiques) *J d'urol méd et chir* 1929 xxvii 273 369

Marion has collected from the literature eighty four cases of transverse wounds of the ureter He rejects fifty five as valueless for his study because the cure reported was not verified by later examination of renal function by ureteral catheterization In twenty of the remaining cases the results were poor In three cases which came to autopsy anatomical examination showed that the functional results would have been poor if the patient had lived In six other cases the patients died as the result of the operation There remain only four cases with a cure sufficiently controlled

It appears that although the ureter usually heals either by first intention or after fistulization the operation is most often followed by slow death of the kidney This physiological nephrectomy occasions no clinical symptoms All of the three cases with an incontestable functional cure had this in common that the injured ureter joined the kidney at a higher level than the ureter of the opposite side Marion suggests the possibility of bifid ureter in these cases There is no record of ureterography

The question arises as to whether the generally poor results obtained during the last forty years were due to faulty technique resulting in stricture or to the peculiar physiology of the ureter To investigate this point Marion and Gouverneur made experiments on dogs In eight animal they sectioned and then sutured the ureter and in four they performed a simple circular denudation In two of the animals of the first series it was found ten days and seventy five days respectively after the intervention that with perfect cicatrization of the ureter and in the absence of mechanical stricture and paralysis the vesical end of the ureter failed to dilate to allow the passage of the wave of urine sent forward by the rhythmical contraction of the renal

end A functional stricture was produced It is clear therefore that the results of suture of the ureter are dependent not only on technique, but also on physiology

The findings in the second group of dogs demonstrated that circular denudation of the ureter suppresses the transmission of the peristaltic wave and results in less than eight days in dilatation of the upper end of the ureter The denuded area need not be more than 0 5 cm in length but it must embrace the entire circumference of the ureter and include all nerve fibers The animals were killed at periods ranging from eight to forty days after the operation The longer the period the greater was the dilatation As hydronephrosis was present as early as the tenth day, sclerosis could be eliminated as a factor Adhesion of the denuded ureter to other organs which might also be a factor was never seen

The author s observations agree entirely with those of Blatt who denuded the ureter in rabbits It appears that sooner or later the sectioned and sutured ureter is functionally lost together with the kidney to which it belongs Therefore every precaution must be taken to avoid injuring the ureter during operations Suture of the sectioned ureter is not however to be wholly rejected but is to be undertaken with a realization of the results to be expected

The article has an extensive bibliography

FLORENCE A CARPENTER

Gouverneur R and Marion H An Experimental Study of Suture of the Ureter (La suture de l uretère étude expérimentale) *J d urol méd et chir* 1929 xxvii 155

Experiments on dogs are reported They showed that section of the ureter followed by suture always causes dilatation of the ureter above the suture and of the kidney pelvis This ureterohydronephrosis is not caused by constriction at the site of the suture as it may occur when the sutured area is readily permeable It is caused by functional disturbances in the peristalsis of the ureter which first bring about disequilibrium in the contractions and then atony of the ureter and asystole

Circular denervation of the ureter for even a very limited extent and circular compression which prevents the passage of the wave of peristalsis produce the same result disequilibrium of the contractions atony and dilatation a veritable functional hydronephrosis These three methods of traumatism act in the same way though with decreasing severity They arrest the normal peristalsis of the canal which dilates and the dilatation decreases and finally completely stops movement Compression of only one surface does not disturb the peristalsis of the ureter at least not if it is temporary It must be strong enough to furnish a mechanical obstacle to peristalsis Any condition that stops the passage of the peristaltic wave favors the development of uretero hydronephrosis AUDREY G MORGAN M D

BLADDER URETHRA AND PENIS

Stirling W C and Belt N Traumatic Rupture of the Bladder with Perivesical Extravasation *J Am M Ass* 1929 xcii 2006

On account of the protection afforded the bladder by the pelvis injuries of the bladder are not common The normal bladder does not rupture spontaneously The most common causes of rupture are automobile accidents In the majority of cases there are fractures of the pelvic bones Usually the bladder is distended or overdistended The rupture may be either intraperitoneal or extraperitoneal, but is most frequently of the latter type Extravasation of urine and necrosis of the surrounding tissues are very common

The symptoms are usually hæmaturia a tumor mass in the suprapubic area disturbances of micturition and pain The authors report several cases in detail

The treatment indicated is immediate suprapubic cystostomy with perineal counter drainage and the supportive measures to combat shock namely transfusion the injection of salt solution under the skin and the administration of opiates

ELMER HESS M D

Bouillié M Hypertrophy of the Neck of the Bladder (L hypertrophie du col vésical) *J d urol méd et chir* 1929 xxvii 97

Bouillie reviews fifteen cases of hypertrophy of the neck of the bladder a condition first described by Marion The symptoms are dysuria and retention of urine in the absence of apparent lesions of the urinary tract or disturbances of the nervous system The early appearance of the symptoms suggests that the hypertrophy in congenital The cause is not known

The diagnosis is based on the elimination of all the usual conditions causing dysuria and retention and the patient s age

Histological examination of the specimens removed at operation in nine of the author s cases showed distinct muscle hypertrophy of the neck of the bladder without any appreciable change in the connective tissue or glands

The treatment consisted in complete removal of the neck of the bladder and the immediate results were good in every instance After the operation the symptoms subsided and although some of the patients had had chronic retention for years catheterization showed no residual urine The late results as determined over periods ranging from seven months to fifteen years were also good except in one case in which the symptoms recurred after two years In no case was there found to be any incontinence of urine

An important observation suggesting the congenital nature of the condition is the frequent co existence of other lesions that are beyond doubt congenital In a third of the author s cases a diverticulum was found

Bouilly believes that the majority of cases described as bladder prostatism without enlargement of the prostate and primary atony of the bladder are cases of congenital hypertrophy of the neck of the bladder AUDREY G MORGAN M D

De Berne Lagarde **Complete Retention of Urine in a Woman Due to a Pediculated Myoma of the Bladder Removal of the Tumor by Hypogastric Incision Recovery** (Rétention d'urine complète chez la femme par myome pédiculé de la vessie ablation de la tumeur par taille hypogastrique guérison) *J d'urol méd et chir* 1929 xxvii 314

The patient whose case is reported was a woman forty two years of age who had had complete retention of urine for about two months and during that time had been catheterized several times a day She had had no symptoms at all except a gradually increasing dysuria which had begun about seven years before When she strained in an attempt to urinate not a drop of urine was passed but a grayish tumor appeared at the meatus and a part of it about the size of a cherry protruded

Examination showed that the urethra was greatly dilated and that the tumor was attached by a slender pedicle just within the neck of the bladder to the left of the midline The bladder was normal and the urine only very slightly turbid

Under ether anæsthesia the bladder was opened and the tumor removed by sectioning its pedicle The bladder was then partially closed and drained

Twenty five days after the operation the patient was able to urinate normally For about a week she had slight incontinence of urine probably due to the abnormal and prolonged distention of the urethra and the neck of the bladder caused by the tumor Histological examination showed the tumor to be a typical leiomyoma with very little connective tissue

In twenty five of the thirty seven authentic cases of myoma of the bladder which the author was able to find in the literature the tumor was within the cavity of the bladder Such tumors rarely become pedicled enough to cause dysuria by obliterating the urethra The treatment is removal by hypogastric incision The neoplasm may recur but the recurrences like the original tumors are histologically benign AUDREY G MORGAN M D

Kaufman L R Tumors of the Bladder and Prostate with Special Reference to Cancer *Surg Clin N Am* 1929 ix 701

In 1910 in the registration area of the United States embracing 82 per cent of the population the deaths due to carcinoma numbered 71 56 and over 11 per cent of all deaths of persons over forty five years of age were due to carcinoma Dublin estimated that in 1924 a boy of ten years stood nearly 9 chances in 100 of dying of carcinoma up to the age of sixty five years and a girl stood 12 chances in 100 of dying of carcinoma up to the age of forty years The liability of death from carcinoma has increased over 45 per cent In 1924 cancer was responsible for well over 8 000 of every 100 000 deaths Cancer of the bladder is said to constitute from 0 1 to 0 2 per cent of all forms of cancer

If sarcoma is excluded tumors of the prostate may be classified as inflammatory lesions (chronic prostatitis simple abscess or tuberculosis) benign hypertrophy (adenoma or glandular hyperplasia) and carcinoma Carcinoma of the prostate represents well over 20 per cent of all prostatic tumors

The most important sign of cancer of the bladder is hæmaturia In the cases of all persons past the age of fifty years hæmaturia demands a cystoscopic examination

Cancer of the bladder is essentially a local disease with little or no tendency to metastasize but with extraordinary infiltrative qualities Its lethal element is renal damage with exhaustion and sepsis It occurs as a papillary type a malign form of squamous-cell carcinoma and a slowly infiltrating type

The treatment of cancer of the bladder requires a knowledge of the type of growth its location and above all its morphology Broder's classification is an invaluable aid When the growth is resectable radical operation transperitoneal or extraperitoneal with transplantation or ligation of the ureter when necessary offers the only chance of cure Total cystectomy with preliminary transplantation of the ureters into the sigmoid as a two-stage operation should be done more often Radium does not establish a final cure of frankly malignant tumors but when applied through the cystoscope or by the suprapubic route with or without desiccation it may cure small papillary tumors The X ray is useless except for the palliation of pain and occasionally the control of hæmorrhage Surgical diathermy (electrocoagulation) is an ideal procedure in surgical resection to destroy the tumor and in inoperable cases is effective in checking the growth of the neoplasm

The most important symptom of cancer of the prostate is pain or urinary difficulty In the cases of men past fifty years of age such symptoms demand a rectal examination

Radium is an ideal agent to limit the return of the growth The irradiation should be combined with operation for the relief of urinary obstruction In general a permanent suprapubic cystotomy combined with radium treatment offers the best outlook. Radical prostatectomy is applicable to only a very small group of cases JOHN P O NEIL M D

Bryan R C **Sarcoma of the Bladder Report of a Case** *J Urol* 1929 xxi 695

Bryan reports a case of sarcoma of the urinary bladder in a man forty two years of age whose chief complaints were increased frequency of urination with a small fluid output dysuria severe tenesmus hæmaturia and nocturia Physical examination was essentially negative except that rectal examination revealed a rounded globular uniform tumor of the bladder wall Urinalysis showed 4+ blood and

pus The blood count disclosed a moderate secondary anæmia Chemical examination of the blood showed a high retention of urea and creatinin

The cystoscopic examination was unsatisfactory because of intravesical hæmorrhage The bladder capacity was very small The mucosa was pale and only a few small tumor projections from the bladder wall were visualized The cystogram showed the bladder to be small and irregularly shaped

Because of a rise in the blood urea and creatinin with a urinary output of only a few drams an extraperitoneal tap of the right ureter was performed to relieve what was thought to be an obstruction of the ureter due to the bladder tumor The tissue was found to be very œdematous Decortication of the right kidney was performed with the insertion of a catheter through the kidney cortex into the renal pelvis for drainage The patient recovered from the anæsthesia in a satisfactory condition but later went into coma and died at the end of twelve hours

At autopsy the kidneys were found to be very large On section they showed very acute congestion with hæmorrhagic extravasation scattered abscesses and marked pelvic inflammation The bladder which was larger than the fist formed the tumor mass which was firmly adherent to the surrounding parts On section its wall was found to average ¾ in in thickness It was firm and grayish white The mucosa was intact but presented hæmorrhagic areas The projection seen at cystoscopy was close to the trigone Both ureters traversed the bladder wall but they must have been compressed by the thickened wall Microscopic examination showed a round-cell sarcoma involving the whole bladder wall without involvement of the epithelium

According to the literature primary sarcoma of the bladder is rare The earliest and most reliable sign is hæmaturia Kidney function is impaired fairly early with retention of urea and creatinin in the blood due to the pressure of the tumor on the ureteral orifices The prognosis is always grave

J Edwin Kirkpatrick M D

Dobrotvorskij V Remarks on Total Extirpation of the Bladder for Carcinoma (Einige Bemerkungen ueber totale Entfernung der Harnblase bei Krebs) *Urologija* 1928 v 3

When the papilloma is situated in the region of the ureteral orifices or the fundus radical extirpation of the neoplasm is not indicated as early recurrence cannot be thereby avoided Total extirpation of the bladder is preferable The operation is easily done under local anæsthesia

When the ureteral orifice is transplanted to the skin very thin catheters are used at first When the ureters are very wide they are narrowed by means of ligatures over glass drainage tubes The most unpleasant complication is necrosis of the distal portion of the ureter which is difficult to prevent in patients with a very thick abdominal wall In the course of time a stricture may develop at this site Maceration of the skin and suppuration at the site of the implanted ureteral orifice are frequent complications In the suturing of the ureter great care must be taken to prevent kinking Ascending infection is difficult to prevent but most of the patients have infection of the renal pelves when they come to operation In this respect implantation of the ureter into the abdominal wall has no absolute advantage over implantation into the rectum

The author reviews seventeen cases in which total extirpation of the bladder was done with no mortality due to the operation

E Banner Voigt (Z)

Wheeler Sir W I de C Traumatic Rupture of the Urethra *Irish J M Sc* 1929 6 s 237

Traumatic rupture of the urethra is rare It occurs most frequently in the bulbous portion of the urethra well in front of the triangular ligament Injury to the membranous urethra is seldom followed by a tight stricture

The diagnosis of urethral rupture usually presents no difficulty However while large hæmatomata in the perineum suggest complete rupture they may occur also in severe injury to the corpus spongiosum without rupture The latter is frequently followed by stricture The amount of bleeding from the meatus after urethral rupture is in inverse proportion to the amount of injury to the urethra In cases of fractured pelvis the urethra is usually ruptured near the prostate

Operation should be undertaken in all cases of urethral rupture whether an instrument can be passed or not As a rule suprapubic cystotomy and retrograde catheterization are indicated The urethra should be sutured over an indwelling catheter and the perineal wound completely closed Following the operative technique suggested the catheter can be changed three or four times during the first fortnight without difficulty After from ten to fourteen days the catheter should be removed and the suprapubic wound allowed to heal After the lapse of twelve months the passage of instruments is unnecessary if the patient is symptomatically well

The administration of thyroid extract appears to soften fibrous tissue and is prophylactic against pulmonary embolus

John P O Neil M D

GENITAL ORGANS

Chute A L Some of the Complications of Prostatectomy *J Urol* 1929 xxi 711

Chute states that most of the complications of prostatectomy are due to interference with kidney function caused by back pressure from the over distended bladder Their severity depends on whether the urine is infected or not The passive congestion following the sudden relief of pressure at operation may produce almost a total anuria In some cases there may be severe nausea vomiting thirst hiccough and abdominal distention In order to prevent passive congestion of the kidneys the

renal back pressure should be relieved very gradually before operation This may be done by means of a soft catheter but if the bladder is infected supra pubic drainage is preferable

A marked diminution in the output of urine is a danger sign This is overcome by the administration of large quantities of fluid by any one of several methods

Two important signs of faulty renal excretion are distressing hiccough and obstinate abdominal disten tion The former may be arrested by the sub cutaneous administration of salt solution though sometimes this requires several days Carbon diox ide treatment is not to be relied upon but is a useful adjunct

Distention is treated by the subcutaneous ad ministration of large quantities of salt solution fre quent enemas abdominal stoops and pituitrin

Ether greatly increases the danger of toxæmias of renal origin

Uncompensated valvular lesions are sometimes a contra indication to operation In cases with such lesions and cases of myocarditis digitalization should be done for three days Even when the condition seems hopeless recovery may result

Embolism following thrombosis of the pelvic veins which is usually pulmonary cannot be prevented Death sometimes occurs so suddenly as to suggest coronary embolism In the origin of embolism infection plays an important part Therefore col lections of pus should be promptly drained when located

Hæmorrhage is a dreaded complication of pros tatectomy It is due infrequently to blood changes It comes from the prostatic bed To arrest it the bladder outlet should be packed with gauze Arte riosclerosis and infection predispose to this com plication

Epididymitis is a frequent complication when catheter drainage is used The author does a double vasectomy in all cases in which there is no contra indication

Incontinence following prostatectomy is due to injury to the cut off muscle

Perineal fistulæ are associated always with the perineal operation They clear up after curettage of the sinus and the use of an inlying catheter

A large amount of residual urine following pros tatectomy is usually due to failure to remove the obstruction or to atonicity of the bladder When obstruction is responsible re-operation is indicated Atonicity of the bladder is soon relieved by the use of a catheter BENJAMIN F ROLLER M D

Roantree R P Torsion of the Spermatic Cord *California & West Med* 1929 xxx 313

Although few cases have been reported in the literature torsion of the spermatic cord is not ex tremely rare The author has seen two cases in the last year

The symptoms may be mild or severe At times they suggest obstruction of the bowel The diag nosis is made from the history and the findings of physical examination but as most undescended tes ticles are accompanied by hernia it is sometimes impossible to differentiate torsion of the spermatic cord from strangulated hernia.

When the diagnosis is made early and immediate operation is performed the testicle can often be saved If the testicle is viable the tunica vaginalis should be inverted to prevent hydrocele and the organ sutured to the bottom of the scrotum to pre vent recurrence If gangrene has supervened or chidectomy is indicated FLIGER HESS M.D

Frey An Experimental Contribution on the De velopment of Acute and Chronic Inflammation of the Testicle and Epididymis (Experimenteller Beitrag zur Entstehung der akuten und chronischen Hoden und Nebenhodenentzuendung) *53 Tag d deutsch Ges f Chir* Berlin 1929

Inflammation of the epididymis and testicle is often attributed to antiperistaltic movements of the vas deferens carrying bacteria into the epididymis from the posterior urethra the prostate or the seminal vesicles The exciting cause is believed to be a mechanical or chemical irritation of the poste rior urethra

In studies of the motility of the vas deferens of the rabbit in situ and after exturpation the author found that faradic and galvanic stimulation caused regular movements not only when it was applied directly but also when it was applied indirectly by way of the hypogastric nerve and the colliculus seminalis Mechanical chemical and thermic stimulation on the other hand were without effect Of the phar macological stimulants adrenalin had an effect when applied directly and when administered intrave nously The stimulation caused a shortening with a simultaneous narrowing but the latter was con siderably weaker than the former According to whether the mode of stimulation was direct or indi rect the contraction was more local or more diffuse Other types of movements such as pendulum peri staltic and antiperistaltic movements were not noted

Whether the contents of the vas deferens was semen or artifically introduced dye solution it was always passed toward the urethra and never toward the testicle Never as further experiments showed did the contents of the urethra enter the testicle or the epididymis through the vas deferens Dye solu tion introduced into the posterior urethra or the colliculus seminalis never entered the vas deferens even when severe stimulation was applied More over in twenty experiments carried out with virulent staphylococci and streptococci it was never possible to cause epididymitis or orchitis from the posterior urethra by irritation of the vas deferens or the hypogastric nerve

The author comes to the conclusion that move ments of the vas deferens are not responsible for the development of inflammation of the epididymis or testicle STEFFNER (Z)

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS, MUSCLES TENDONS ETC

Benvenuti B The Importance of Trauma in the Pathogenesis of Osteo Articular Tuberculosis (L importanza del trauma nella patogenesi della tuberculosi osteo articolare) *Arch ital di chir* 1929 xxiii 3 3

The author reports sixteen cases of bone and joint tuberculosis with special reference to the relation ship of the condition to trauma He concludes that there is no doubt that trauma may cause tubercu losis of the bones and joints but believes that it is responsible in only from 1 to 2 per cent of the cases

It causes the infection by producing conditions favorable to the development of Koch bacilli which are present in a latent state at the site of the injury or causing Koch bacilli circulating in the blood to become fixed in the injured tissues However a case is to be diagnosed as of traumatic origin only when the interval between the trauma and the develop ment of the tuberculosis was not less than two or three months or more than a year the trauma was sufficient to injure the deep tissues and a previous history of the disease can be excluded It must be remembered that the statements of the patient may not be very credible as they are often based on the desire for pecuniary profit

Trauma aggravates osteo articular tuberculosis more frequently than it produces the condition It may cause extension of the infection to neighboring parts change a slow or chronic process into a rapidly invasive one bring about recurrence in a case that was clinically cured generalize a local focus or transform a closed tuberculosis into an open one Aggravation of osteo articular tuberculosis by trauma is manifested not only by acuteness and rapid invasion of the disease but also by immediate local signs which are to a certain extent propor tionate to the severity of the trauma In judging the severity of the trauma the three chief factors to be considered are pain swelling and impairment of function

AUDREY G MORGAN M D

Amorim A A New Treatment for Tuberculous Abscess (Abscesos tuberculosos Una nueva sub stan ia modificadora para su tratamiento) *Semana med* 1929 xxxvi 403

The author reports five cases of tuberculous abscess which were treated by injections of colloidal copper morrhuate and shows by roentgenograms the remarkable improvement that resulted Pus was evacuated repeatedly and from 1 to 10 c cm of the copper morrhuate injected into the abscess cavity While the copper has a specific action on acid fast bacilli the cod liver oil aids in the fixation of the salts of calcium in the body and is particularly efficacious in bone repair The morrhuate stimu lates the formation of the leucocytic ferments and favors their bacteriolytic action

The treatment described results in a cure much more rapidly than any other method Amorin has tried In one case of very destructive coxalgia it produced a functional and anatomical cure in five months a fourth of the time ordinarily required in the most favorable cases

AUDREY G MORGAN M D

Hirsch I S Generalized Osteitis Fibrosa *Radiology* 19 9 xii 505 xiii 44

Hirsch reports cases of (1) cystic metaplasia with a history extending back to early childhood (2) hyperplastic malacia in three children of one family with changes present since birth (3) combined metaplastic and hyperplastic malacia (4) cystic metaplastic malacia (5) cystic metaplastic malacia with hyperostotic changes and (6) cyst and tumor forming metaplastic malacia with metaplastic new growths

ELVEN J BERKHEISER M D

Brenckmann E and Jung A Chondromata of the Sheaths of the Flexor Tendons of the Hand (Chondromes des gaines des fléchisseurs de la main) *Rev d orthop* 1929 xxxv 1,6

A woman of twenty four years had noted the painless growth over a period of twelve years of a tense tumor on the dorsum of the left wrist The neoplasm interfered slightly with the movement of the fingers Operation revealed a cyst overlying the tendons and passing between them to become adher ent to the bone It had developed from the visceral layer of the sheath of the extensor tendon of the third finger The tendon had been split into a number of cords several of which bore tiny excres cences On section the latter proved to be fibro cartilaginous with occasional areas of ossification

The authors call attention to the rarity of this condition and suggest that it may have some relation to the formation of free bodies in joints

MICHAEL L MASON M D

Gaugele Spondylitis Deformans and Trauma (Spondylitis deformans und Trauma) *Ztschr f orthop Chir* 19 9 li 74

Spondylitis deformans is usually not associated with pain or at least not for a long time Moreover in contrast to spondylitis ankylopoietica which tends to produce early rigidity of the spine it does not interfere greatly with mobility It involves al most exclusively the lumbar portion of the spine The origin of the condition from trauma has not been demonstrated The theory that slight trauma

may be responsible for its development is incorrect but slight trauma may aggravate an already existing spondylitis producing transitory pain The formation of arthritic irregularities in the contour of the spine requires years rather than weeks

VALENTIN (2)

Henry M O Acute Osteomyelitis of the Spine *J Bone & Joint Surgery 1929 vi 536*

In the case of acute osteomyelitis of the spine reported by the author drainage of the deep abscess was done fairly early this procedure undoubtedly saving the patient's life and apparently saving the osteogenetic layers of the periosteum In the first roentgenograms the spine appeared normal but a month later complete obliteration of the body of the fourth lumbar vertebra was evident

Five months after the onset of the condition there was an exuberant reformation of the vertebra and ultimately there was solid fusion of the adjacent vertebræ without deformity

H EARLE CONWELL, M D

Sorrel E A Hæmorrhagic Hygroma of the Serous Bursa of the Psoas (Hygroma hémorragique de la bourse séreuse du psoas) *Bull et mém Soc nat de chir 1929 lv 98*

The patient whose case is reported a man fifty five years of age was sent to the author with the diagnosis of coxalgia and cold abscess in the inguinal region

Physical examination revealed a very tense swelling of the inguinal region bounded by the femoral vessels and roentgenograms showed a marked deformity of the head of the femur There was no contracture of the periarticular muscles Certain movements of the joint were painful The inguinal swelling was painful only when it was compressed forcibly The deformity seen in the roentgenogram seemed to be due to a dry or syphilitic arthritis rather than to coxalgia The patellar reflexes were absent As the patient had been irregularly treated for syphilis over a period of twenty five years the hypothesis of a syphilitic arthropathy seemed justifiable This hypothesis was confirmed by the change in the form of the last lumbar vertebræ

In the inguinal region operation revealed a very thick pocket which was continuous with the articular capsule without any stricture and without any demarcation On puncture the pocket was found to contain in the midst of a serohæmorrhagic fluid resembling that of an old hæmarthrosis a free osteophyte the size of the third phalanx of the little finger the pedicle of which was broken The point of implantation could be clearly seen on the antero inferior border of the femoral head After evacuation of the articulation the pocket was resected and the wound closed

Recovery was uneventful The patient was advised to continue the anti syphilis treatment

PAGE

Doub H P Intrapelvic Protrusion of the Acetabulum *Radiology 1929 xii 369*

The author reviews eight cases of thinning of the acetabular wall with intrapelvic protrusion of the acetabulum This condition which is rather rare was first described in 1824 It has been attributed to metabolic disturbances trauma and osteoarthritis

Doub's patients ranged in age from sixteen to fifty three years Seven of them were females The Wassermann test was negative in all cases and there was no constant predisposing factor

The clinical characteristics of the condition are pain and limitation of the motion of the hip Roentgen ray examination discloses deepening of the acetabulum with thinning of the mesial and inferior wall

ROBERT V FUNSTON M D

Gratz C M Non Suppurative Infectious Osteomyelitis of the Femur Simulating Osteogenetic Sarcoma *Surg Clin N Am 1929 ix 641*

The case reported was that of a man thirty four years of age who sustained an injury to the distal phalanx of the index finger of the left hand which resulted in infection necessitating the removal of a portion of the bone of the phalanx Four weeks after the injury the patient complained of pain in the lower portion of the left thigh and flexion deformity of the left knee Examination of the thigh showed swelling and irregular thickening of the lower third The patient's temperature was 99 4 degrees F Roentgenographic examination of the left thigh revealed an irregular zone of destruction in the lower third of the shaft of the femur with periosteal thickening resembling osteogenetic sarcoma Biopsy demonstrated a chronic rarefying and productive osteomyelitis with no sign of tumor cells

RUDOLPH S REICH M D

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Loehr Permanent Results in the Treatment of Osteochondritis Dissecans (Dauererfolge bei der Behandlung der Osteochondritis dissecans) *53 Tag d deutsch Ges f Chir Berlin 1929*

This article is based on 106 cases of osteochondritis dissecans and 118 extremities affected with the condition which were treated in the period from 1914 to 1926 Ninety eight of the patients were males The knee was involved in 20 males and 3 females and the elbow in 78 males and 5 females The majority of the elbow and knee involvements occurred in laborers In about 10 per cent of the cases the condition was bilateral As a result of the development of the clinical and roentgenological diagnosis by Kappis the material at Kiel has increased six fold in recent years This increase was due chiefly to an increase in the number of young patients with slight joint findings without loosened joint mice The severe cases with arthritis deformans and multiple joint mice have not increased

The history often fails to indicate trauma as the cause but the roentgen findings afford evidence as to the age of the process Osteochondritis dissecans of the head of the humerus exerts an influence on the growth of the epiphyses in the sense of premature disappearance of the epiphyseal line Fresh foci of osteochondritis exert no influence on the epiphysis in the course of a few weeks but after a period of months closure of the epiphysis of the head of the humerus results with simultaneous widening of the head of the radius but with continued preservation of its epiphysis Finally there is closure of all of the epiphyses of the humerus with the exception of the epiphysis of the median condyle and also that of the head of the radius which assumes a constantly more deformed and thickened form The broadening of the head of the radius anteriorly and laterally is a typical permanent characteristic also of the spontaneously healed cases

With regard to the question as to what happens in unrecognized early cases the author states that in 23 cases in which osteochondritis of the elbow joint had been diagnosed previously clinical and roentgenological examination revealed a complete cure after a number of years In 15 cases the joint mice had become re attached to the bone Only in 8 cases did a poor result develop later and in some of the latter severe joint changes (arthritis deformans multiple joint mice) were found at the first examination In 3 cases of osteochondritis of the knee with genu valgum there was spontaneous recovery with accretion of the joint mouse to the upper recess and absence of arthritis deformans

The operative treatment of osteochondritis dissecans of the elbow (64 cases with operation on 65 extremities) gave a good result in one third of the cases namely those in which the surgeon limited himself to the least possible interference (careful removal of the joint mouse from its bed and of loosened joint mice) In another third—the juvenile cases in which the joint mouse bed was also chiselled out—the results were poor In these cases there resulted a bud injury of the epiphys s of the head of the humerus (defective growth of the humerus on the radial side of the elbow joint) The head of the radius became enormous with marked widening anteriorly and laterally and moderate arthritis deformans with occasional new joint mouse formation In another third of the cases the results were very poor These were cases in which the bone operation on the joint mouse bed revealed arthritis deformans They showed most severe arthritis deformans multiple joint mouse formation and capsular osteomata The joints presented the most severe changes with marked hindrance of flexion and extension as a result of the bone deformity (an enormous increase in circumference of the bones of the upper arm and forearm)

The results of operation in osteochondritis dissecans of the knee joint in 30 controlled cases were perfect in 4 poor in 7 and very poor in 3 in which latter a more extensive bone operation was performed (excision of the joint mouse bed) The result was poor also in 10 cases in which the original findings were serious The operative results in the knee joint were therefore worse than those in the elbow joint

From these findings it is evident that in the treatment efforts must be made to limit disturbance of the joint play as much as possible If the smooth interplay of the joint surfaces is disturbed by the operation there results an arthritis deformans against which operation is powerless

In the discussion BERGMANN (Berlin) reported on observations made in an operatively proved case of osteochondritis dissecans of the hip joint The patient was a man twenty four years of age who had always been well up to three months previously Then without any trauma he began to experience pain in the knee and later in the hip When seen in the clinic he presented a flexion abduction contracture of the hip similar to that of coxitis The roentgenogram and particularly the stereoscopic picture showed most distinctly a joint mouse the size of a pigeon s egg The sharp line of demarcation of the joint mouse bed in the hip was striking Otherwise the head of the joint was completely intact and showed no signs of arthritis deformans Arthrotomy performed through an anterior longitudinal incision revealed a completely loosened joint body from the foveal head region Histologically it showed the usual picture of aseptic necrosis of bone On the basis of the histologically demonstrable metaplastic process with new bone formations it could be concluded definitely that the disease was much older than the history indicated Six weeks after the operation the hip was freely movable LOEHR (Z)

Obermedermayr The Treatment of Chondropathia Patellæ (Zur Therapie der Chondropathia patellæ) *53 Tag d deutsch Ges f Chir* Berlin 1929

In the follow up study of surgically treated cases of chondropathia patellæ two groups are to be distinguished—those in which the diseased cartilage was removed superficially and those in which it was removed deeply together with its bed and possibly with opening of the medullary cavity In those of the first group slight disturbances often persist but no changes are apparent in the roentgenogram In those of the second group there is usually freedom from symptoms but the roentgenogram discloses more or less marked arthritic changes These observations were made in eighteen cases The author therefore warns against going too deeply when removing the necrotic cartilage

In the discussion of this report PFAB (Graz) stated that chondropathia patellæ is often discovered incidentally when the knee is opened for some other condition It should always be borne in mind and looked for in order that subsequent joint disturbances may be avoided Pfab agreed with Obermedermayr that the necrotic cartilage be removed superficially He recommended covering the raw area with a flap of fatty tissue

may be responsible for its development is incorrect but slight trauma may aggravate an already existing spondylitis producing transitory pain The formation of arthritic irregularities in the contour of the spine requires years rather than weeks

VALENTIN (Z)

Henry M O Acute Osteomyelitis of the Spine *J Bone & Joint Surgery* 1929 xi 536

In the case of acute osteomyelitis of the spine reported by the author drainage of the deep abscess was done fairly early this procedure undoubtedly saving the patient s life and apparently saving the osteogenetic layers of the periosteum In the first roentgenograms the spine appeared normal but a month later complete obliteration of the body of the fourth lumbar vertebra was evident

Five months after the onset of the condition there was an exuberant re formation of the vertebra and ultimately there was solid fusion of the adjacent vertebræ without deformity

H EARLE CONWELL M D

Sorrel E A Hæmorrhagic Hygroma of the Serous Bursa of the Psoas (Hygroma hémorragique de la bourse séreu e du psoas) *Bull et mém Soc nat de chir* 1929 lv 98

The patient whose case is reported a man fifty five years of age was sent to the author with the diagnosis of coxalgia and cold abscess in the inguinal region

Physical examination revealed a very tense swelling of the inguinal region bounded by the femoral vessels and roentgenograms showed a marked deformity of the head of the femur There was no contracture of the periarticular muscles Certain movements of the joint were painful The inguinal swelling was painful only when it was compressed forcibly The deformity seen in the roentgenogram seemed to be due to a dry or syphilitic arthritis rather than to coxalgia The patellar reflexes were absent As the patient had been irregularly treated for syphilis over a period of twenty five years the hypothesis of a syphilitic arthropathy seemed justifiable This hypothesis was confirmed by the change in the form of the last lumbar vertebræ

In the inguinal region operation revealed a very thick pocket which was continuous with the articular capsule without any stricture and without any demarcation On puncture the pocket was found to contain in the midst of a serohæmorrhagic fluid resembling that of an old hæmarthrosis a free osteophyte the size of the third phalanx of the little finger the pedicle of which was broken The point of implantation could be clearly seen on the anteroinferior border of the femoral head After evacuation of the articulation the pocket was resected and the wound closed

Recovery was uneventful The patient was advised to continue the anti syphilis treatment

PACE

Doub H P Intrapelvic Protrusion of the Acetabulum *Radiology* 1929 xii 369

The author reviews eight cases of thinning of the acetabular wall with intrapelvic protrusion of the acetabulum This condition which is rather rare was first described in 1824 It has been attributed to metabolic disturbances trauma and osteoarthritis

Doub s patients ranged in age from sixteen to fifty three years Seven of them were females The Wassermann test was negative in all cases, and there was no constant predisposing factor

The clinical characteristics of the condition are pain and limitation of the motion of the hip Roentgen ray examination discloses deepening of the acetabulum with thinning of the mesial and inferior wall

ROBERT V FUNSTON M D

Gratz C M Non Suppurative Infectious Osteomyelitis of the Femur Simulating Osteogenetic Sarcoma *Surg Cl n N Am* 1929 ix 641

The case reported was that of a man thirty four years of age who sustained an injury to the distal phalanx of the index finger of the left hand which resulted in infection necessitating the removal of a portion of the bone of the phalanx Four weeks after the injury the patient complained of pain in the lower portion of the left thigh and flexion deformity of the left knee Examination of the thigh showed swelling and irregular thickening of the lower third The patient s temperature was 99 4 degrees F Roentgenographic examination of the left thigh revealed an irregular zone of destruction in the lower third of the shaft of the femur with periosteal thickening resembling osteogenetic sarcoma Biopsy demonstrated a chronic rarefying and productive osteomyelitis with no sign of tumor cells

RUDOLPH S REICH M D

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Loehr Permanent Results in the Treatment of Osteochondritis Dissecans (Dauererfolge bei der Behandlung der Osteochondritis dissecans) 53 *Tag d deutsch Ges f Chir* Berlin 1929

This article is based on 106 cases of osteochondritis dissecans and 118 extremities affected with the condition which were treated in the period from 1914 to 1926 Ninety eight of the patients were males The knee was involved in 20 males and 3 females and the elbow in 78 males and 5 females The majority of the elbow and knee involvements occurred in laborers In about 10 per cent of the cases the condition was bilateral As a result of the development of the clinical and roentgenological diagnosis by Kappis the material at Kiel has increased six fold in recent years This increase was due chiefly to an increase in the number of young patients with light joint findings without loosened joint mice The severe cases with arthritis deformans and multiple joint mice have not increased

from the posterior tibial branches to the dorsalis pedis When the dorsalis pedis was also ligated typical non union resulted ELVEN J BERKHEISER M D

Glaessner K and Hass J Means of Activating the Formation of Callus in Bone Fractures (Moyens d activer la formation du cal dans les fractures osseuses) *Presse méd* Par 1929 xxxvii 176

The authors report the results of experiments carried out on young cats to determine the influence of the thymus and thymic extracts on the healing of fractures The left hind leg was broken above the joint and at the same time the thymus was ablated The fragments of the bone were either left in place or displaced laterally and the fractured limb was put up in plaster for three days The animals were not much hindered in their movements For a period of fourteen days half of them were given daily subcutaneous injections of 1 c cm of a very active thymic extract mixed with a phosphorus compound The progress of consolidation of the fractures was controlled every eight days by roentgen examination The animals were sacrificed after four weeks

The cats subjected to removal of the thymus showed a much weaker callus than the controls Those that were operated upon and given thymic extract showed almost complete consolidation The results demonstrated that extirpation of the thymus retards callus formation and the administration of thymic extract accelerates it

In a series of experiments in which the effects of albumin testicular extract parathyroidin and thymic extract on the ossification of callus were compared thymic extract was found to have the most marked influence

Thymic extract hastens the consolidation of fractures also in man The drug may be absorbed in large doses without danger Its action was investigated in the case of one of two patients of about the same age who were subjected to bilateral linear osteotomy of the femur At the end of four weeks no difference between the two subjects was noted but after three months the patient who had received the extract appeared to have a much better callus than the patient who had not received the extract The extract has proved of value also in cases of delayed union PACE

Brentnall E S A Note on a Comparatively Rare Displacement of the Internal Epicondyle of the Humerus *Brit M J* 1929 i 1113

Brentnall reports a case of fracture of the internal epicondyle of the humerus with lateral displacement of the fragment into the elbow joint limiting motion Open operation with suturing of the fragment into place was followed by a marked increase in the movement of the elbow

Although few cases are reported in the literature Brentnall believes that they are more common than is generally supposed Fairbank and Cotton consider the displacement the result of dislocation of the elbow but in Brentnall s cases there was no such evidence Fairbank attributes the displacement to manipulative reduction Cotton s cases showed evidence of nerve block RUDOLPH S REICH M D

Jones R W Carpal Semilunar Dislocations and Other Wrist Dislocations with Associated Nerve Lesions *Proc Roy Soc Med* Lond 1929 xxii 1071

Paralysis is not a rare primary complication of fractures and dislocations but because it is usually incomplete and transient and is overcome by correct treatment it is frequently overlooked Nerve lesions are most common in cases of dislocation of the elbow and supracondylar fracture with outward displacement In such cases the ulnar nerve securely held both proximally and distally is stretched around the internal condyle Less often the median or radial nerve is injured in trauma at the elbow

In traction injuries at the wrist the ulnar nerve is seldom involved Ulnar palsy is a common complication only in those rare cases in which a fracture between the radial epiphysis and diaphysis without rupture of the lower radio ulnar ligament results in forward and medial dislocation of the radial diaphysis In such cases the nerve is impaled by the lower end of the radial diaphysis

Because of its narrow confines and close proximity to the bone the median nerve is especially liable to trauma in wrist injuries In Colles fracture and in displacement of the lower radial epiphysis the paralysis is usually incomplete and transient In recent cases it responds promptly to proper reduction but in older cases cutting down of the bone edge may be necessary

In carpal dislocations the nerve is especially vulnerable The author believes that in recent cases of lunate dislocation operative removal is not justified as the end results of this procedure are not so good as has been assumed Stern s method of manipulative reduction by means of a Thomas wrench is effective but leads to further trauma to the nerve For recent cases the author prefers his own manipulative technique with the use of the hands only The thumb of one hand presses backward on the bone while traction is exerted with the other hand The wrist is dorsiflexed and then slowly palmar flexed The hand is put up in palmar flexion for four days and in a straight dorsal splint for six days In old dislocations of the lunate it is necessary to open the joint in order to mobilize the os capitatum by dividing the adhesions between it and the other bones of the carpus The lunate can then be brought back into position by the maneuver described The use of raspatories and levers is condemned as likely to lead to osteoarthritis MICHAEL L MASON M D

Nordmann A Questionnaire Regarding the Treatment of Fractures of the Neck of the Femur (Umfrage ueber die Behandlung der Schenkelhals brueche) *Med Klin* 1928 ii 1781 1823

In reporting the replies to a questionnaire regarding the treatment of fractures of the neck of the

LAEWEN (Koenigsberg) referred to a report on the end results of operation for patellar chondropathia made by him three years ago In removing the roughened and fissured cartilage he holds the blade of the knife flat against the surface of the bone When this is done a thin layer of cartilage remains on the bone When the cartilaginous defect extends down to the bone the condition is advanced and is frequently found to have affected the joint surface at other points such for example as at the cartilage of the femoral condyles and sometimes it shows changes characteristic of arthritis deformans The diagnosis of patella chondropathia cannot always be made with certainty At times operation reveals no cartilaginous changes but shows instead the picture of chronic synovitis very diversified in character and frequently of unclear genesis It has been found that arthrotomy alone may cause the symptoms to clear up The experience gained from this operation has led to the introduction of diagnostic arthrotomy when the diagnosis of tuberculosis cannot be made otherwise with certainty Burckhardt and Friedrich have shown that the histological examination of excised bits of synovial tissue and animal inoculation may yield definitely positive or negative results At times however the information gained by diagnostic arthrotomy brings up new problems

Laewen cited the case of a fifteen year-old girl upon whom he operated for an effusion of the left knee with severe pain In this case there was a marked hereditary factor The arthrotomy disclosed a severe synovitis Histological examination and animal inoculation revealed no indication of tuberculosis Laewen believes that in such cases the condition is the mono-articular form of Poncet's tuberculous rheumatism in which the toxins of the tubercle bacillus play an etiological rôle but cause no specific changes in the synovial membrane

Of a similar type are the cases in which the Wassermann reaction of the blood and of the fluid obtained from the knee by puncture is positive Laewen reported three such cases In these also the histological examination of the synovial membrane showed no changes characteristic of lues (staining for spirochætes also negative) All three cases were influenced favorably by the operation In two cases anti syphilis treatment was given subsequently When this does not yield the desired result in such cases arthrotomy is to be recommended Apparently the healing effect of this operation is due partly to the long continued circulatory change in the capsule wall in the form of hyperæmia

Laewen recalled a case treated by arthrotomy of the knee joint with resection of cartilage in which during a smooth postoperative course the temperature of the skin of the leg on the side operated upon was 2½ degrees higher than that of the opposite side for a period of twenty five days

STABEL (Berlin) recommended transcutaneous baths which now may be applied locally as the technical difficulty of obtaining the proper water tight cuff for legs of different sizes has been solved by Sarasohn The appliance described makes it possible to bathe the joint with the patient in a comfortable horizontal position for any length of time and at any temperature desired It may be used also for hyperthermization by the method of Goetze

STETTINER (Z)

O Connor D S **Traumatic Subastragalar Arthropathy** *N England J M d* 1929 cc 987

O Connor reports four cases of injury to the subastragalar joint due to a fall from a height There was no evidence of fracture of the os calcis Symptoms typical of arthritis of the subastragalar joint developed gradually The characteristic features were tenderness on pressure over the subastragalar joint inability to place the full weight upon the extended foot and pain in walking on uneven ground The condition is similar to that described by Smith Petersen and Rogers as occurring in the sacro iliac joint in traumatic arthritis

Conservative treatment by immobilization of the foot in a cast and prohibition of weight bearing should be tried first Arthrodesis is to be considered only when conservative treatment fails

ROBERT V FUNSTON M D

Mayer L **The Operative Treatment of Paralytic Deformities of the Foot** *Am J Surg* 1929 vii 80

The author states that paralytic deformities of the foot are almost without exception amenable to operative correction The aim of the orthopedic surgeon is the construction of a stable well balanced foot of good aesthetic form capable of function without a brace and adapted to the wearing of a ready made shoe To secure this result a rigorous pre-operative study of the foot is necessary The operation must be made to conform to the pathological findings the operative technique must include adequate skill in tendon transplantation as well as bone modelling and the postoperative treatment must be continued until the correction has been made permanent H EARLE CONWELL, M D

FRACTURES AND DISLOCATIONS

Lacey J T **Non Union of Fractures** *Ann Surg* 1929 lxxix 813

The author reports experiments carried out on adult dogs to determine the importance of the blood supply in non union of fractures In all of the animals the tibia was fractured by operation and in one group the anterior tibial artery was ligated in addition It was found that in the latter group bony union was more rapid than in the control group To explain this observation the femoral artery of the control dogs was injected with campiodol Roentgenograms made immediately after the injection demonstrated an extensive collateral circulation at the site of the fracture It was evident therefore that a condition favoring non union had not been produced as the lower fragment was receiving blood

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Dale H H Some Chemical Factors in the Control of the Circulation Local Vasodilator Reactions Histamine *Lancet* 1929 ccxvi 1233 and 1285

The author has been able to isolate both choline and histamine from alcoholic extracts of fresh liver and from lung tissue he obtained a depressor substance the entire activity of which was determined to be due to the histamine group He has isolated histamine from almost every organ in the body He believes that the H substance isolated by Lewis is also histamine as it has identical effects

Evidence indicates that in the mammals investigated histamine is a generally distributed constituent of the cells of the normal body which is inert while it remains within the cell but intensely active in producing vasodilator reactions when appropriate stimuli release it from the cell into the tissue fluid either free or in molecular combinations of varying complexity

Histamine which can be extracted from the skin is yielded chiefly by the epidermis As there is no reason to suppose that the epidermal cells react to histamine in any way it is probable that the local vascular reactions of the skin are due to histamine liberated largely from cells not participating in the reaction

Of all of the organs the lung contains the largest amount of histamine The lung is rich in endothelial cells which probably are rich in histamine It is suggested that the lung may have an internal secretion of histamine acting as a true hormone However the author believes that the action of histamine is practically limited to action in the immediate region in which the histamine is limited and is not a true hormone function

Experimental anaphylaxis is thought to be the result of a discharge of histamine from the various cells It is believed however that the reaction is due to histamine plus other cell constituents which produce the shock The injured liver plays an important part in experimental shock

Acetyl choline is another vasodilator substance The injection of minute amounts of this substance is followed by a general vasodilation not only in the areas receiving vasodilator fibers from the parasympathetic nerves but also in the limbs

The effects produced by the vagus are the result not of the direct passage of its impulses to the effector cells, but of the liberation in proximity to these cells of a substance having the effects associated with stimulation of the vagus and the properties of an unstable choline ester

Inhibition of the heart by the vagus is due to the liberation of acetyl choline in relation to the heart muscle The vasodilating effects of the chorda tympani are produced by the same mechanism The vasodilation produced by antidromic stimulation of sensory fibers or the axon reflex through their terminal branchings involves the liberation in relation to the affected arterioles of a substance causing normal arterioles to dilate and exciting voluntary muscle deprived of its motor nerve fibers to an abnormal slow form of contraction These phenomena are thought to be due to acetyl choline

EARLE I GREENE M D

Holman E Arteriovenous Fistula Dilatation of the Artery Distal to the Abnormal Communication An Unusual Feature Experimentally Explained *Arch Surg* 1929 xviii 1672

Dilatation of the heart and of the artery and vein on the proximal side of a peripheral fistula is the usual accompaniment of an arteriovenous fistula if it is sufficiently large and of sufficiently long duration In certain instances the dilatation may be steadily progressive over a period of years accompanied by and probably dependent upon a progressive dilatation also of the fistula itself The progressive dilatation of the fistula accompanied by progressive dilatation of the heart introduces a vicious circle which under certain conditions can end only in complete cardiac decompensation

Experimental evidence is presented to show that the collateral circulation near the fistula may also participate in the dilatation of the circulatory bed through which the short circuited blood passes If the fistula is large blood will seek the fistula through all available channels including the collateral circulation because of the lowered resistance at the fistula

On some rare occasions there occurs a dilatation of the artery distal to a fistula The explanation of this dilatation lies in the development of such an extensive collateral circulation that the main current of blood flowing through the fistula is supplied from the artery which is distal to the abnormal communication

Experimentally distal dilatation of the artery can be produced by establishing a fistula and, after a free flow of blood through the fistula has developed ligating the artery proximal to the fistula The area of lessened resistance at the site of the fistula will attract a large volume of blood through the collateral bed the blood reaching the fistula through the distal artery which dilates in response to the increased bulk of blood flowing through it In the clinical cases presented the flow through the distal artery and the failure of blood to reach the fistula through the proximal artery was due presumably to fibrous tissue deposited in the course of healing

femur Nordmann states that the treatment of medial (subcapital and intermediary) fractures is very unsatisfactory in contrast to that of lateral (intertrochanteric and pertrochanteric) fractures which heal as a rule without trouble In medial fractures of the femoral neck bony union seldom occurs Exactness in the adaptation of the fragments is of the greatest importance in the healing Whether a cast or an extension dressing is applied is a matter of preference on the part of the surgeon An important advance in the treatment is the method of Whitman The dressing should be left on a long time (four or five months) If pseudarthrosis occurs operation is necessary Nailing and the use of screws have been abandoned Extirpation of the femural head and impaction of the trochanter into the acetabulum often gives good results

In reply to the questionnaire GUIEKE stated that he applies an extension dressing followed by an ambulatory pelvic cast In the cases of old patients he uses no dressing He has had little experience with the Whitman method

OEHLICKER recommends the method of Loefberg which is similar to that of Whitman

COENEN uses the Whitman method in the cases of young patients and long continued extension in those of older patients

FNDERLEN uses an extension dressing when the patient is under sixty years of age In the cases of older patients he supports the parts between sand bags His experience with the Whitman method is still too limited to warrant a definite opinion

KIRSCHNER applies extension dressings He objects to the Whitman method because it keeps the patient in bed for a long time usually for about a year

LAEWEN uses an extension dressing for eight weeks and then applies a cast He regards the Whitman method as an improvement in the treatment if the patient is not too old or obese

SCHLOFFER uses extension for from four to six weeks and a pelvic cast for eight weeks He makes no conclusion regarding the Whitman method

FLOERCKEN has adopted the Whitman method Of three cases treated in this way the result was very good in two and fair in one

BORCHARDT considers exact adaptation of the fragments under light ethyl chloride anæsthesia as the most important factor in the treatment After the adaptation he applies an extension dressing or a cast For the subcapital type of fracture he recommends the Whitman method with inward rotation and abduction followed by the application of a cast for three months HIRSCH (Z)

Albee F H The Application of the Bone Graft Peg in Ununited Fracture of the Neck of the Femur *Surg Clin N Am* 1929 ix 619

Albee reports two cases of ununited fracture of the neck of the femur in which the dowel peg bone graft operation was done with very satisfactory functional results He describes the technique in detail For properly selected cases he prefers the bone peg operation to the reconstruction or partial arthroplasty because it aims to restore the hip joint completely with the cartilaginous head of the femur intact

In the hip the conditions which favor non union are scarcity of periosteum about the head and neck of the femur difficulty of immobilization the inhibitory effect of synovial fluid on callus formation and injury to the already damaged blood supply of the head and neck of the femur

To obtain the best possible approximation of the femoral head and neck a cylindrical dowel pin should be used Good approximation is essential for proper vascularization and osteogenesis of the bone graft

During a period of eight years Albee has never failed to obtain union after the dowel bone graft operation. RUDOLPH S REICH, M D

Deutschlaender C Congenital Dislocation of the Astragalus (*Die angeborene Verrenkung des Sprungbeines*) *D tsche Ztschr f Chir* 1928 ccxii 91

Congenital dislocation of the astragalus is a common condition The author has seen a total of twenty six cases Within a year he had twelve cases in his own practice

It is assumed that the anlage of the joint was ectopic The condition is mistaken most frequently for congenital flat foot and sometimes for Volkmann s congenital malformation of the tibiotarsal joint It is essentially a congenital dislocation of Chopart s joint that is of the metatarsus toward the back of the foot

To prevent early crippling of the foot early radical treatment is necessary

Clinical examination reveals a very flat plantar arch with an elongated and slightly convex and irregular instep and usually a more or less marked bony protuberance in front of the internal malleolus In some cases definite flat foot is present as well The bony protuberance is formed not by the scaphoid as is the case in congenital flat foot but by the medially turned neck of the astragalus that is the condyle

The roentgenogram is decisive in making the diagnosis It shows that the changes are in the posterior part of the foot The anterior part of the foot is usually normally developed. The changes in the shape of the tarsal bones are of more importance than the position of the bones

The prognosis is unfavorable the condition usually being progressive

The treatment has not yet been agreed upon In two or three cases treated surgically the operation was followed by recurrence SONNTAG (Z)

the evening before the operation At the time of operation the recipient s cephalic or internal saphe nous vein was isolated through an incision The donor was prepared and made available in the oper ating room Because of the resulting increase in bleeding and the possibility of embarrassment of the heart by abnormally increasing the blood vol ume transfusions were never given before the fall ing off of pressure In this group reactions were slight even though the patients received from 250 to 1 500 c cm of blood at one time and in several instances received blood from two or even three donors While the initial fall in the pressure to zero is promptly overcome by blood replacement subse quent falls are not so well borne and are less respon sive to transfusion This is probably caused by the exhaustion of the mechanisms for sustaining a competent circulation

MANUEL E LICHTENSTEIN M D

RETICULO ENDOTHELIAL SYSTEM

Clauser F **New Studies of the Pigment Fixing Activity of the Reticulo Endothelial System** (Nuove ricerche sull attività granulopessica dell apparato reticolo-endoteliale) *Riv ital di ginec* 1929 viii 557

Experiments were carried out with a view to de termining the activity of the reticulo endothelial system in fixing pigment in various obstetrical and gynecological conditions The pigment employed was Congo red Spectrographic studies showed that when an absolutely accurate technique is used errors due to hamolysis may be avoided The results ob tained in different experiments cannot be compared unless the injections are made slowly and with the same speed in all tests Roentgen irradiation of the reticulo endothelial system of the liver and spleen with a stimulating dose increases the pigment storage of the reticulo endothelial system

The author gives the Congo red index for various gynecological and obstetrical conditions It was found that the pigment storage of the reticulo endothelial system in women with hypoplasia of the genital organs and fibromyoma does not differ from that of normal non pregnant women In women with cancer of the cervix the Congo red index falls showing a slight increase in the pigment storage of the reticulo endothelial system for which no very satisfactory explanation can be given In subacute and chronic inflammations of the female genitalia there is an increase in pigment storage of the retic ulo endothelial system evidently a manifestation of defense on the part of the system against the in fection This indicates the possibility of increasing the defense of the organism against infection by bringing about hyperfunction of the reticulo endo thelial system by physical and chemical stimulation

During the first four months of pregnancy the Congo red method does not show any change in the function of the reticulo endothelial system In the last three months there is a marked increase in the storage of the pigment showing a defense of the maternal organism against the toxins of pregnancy and increased regulation of metabolism

During labor there is a slight decrease in the pigment storage of the reticulo endothelial system

For the first few days of the puerperium the storage is increased as during pregnancy This in crease is followed by a rather slow return to the normal In women with serious auto intoxication in pregnancy the pigment fixation falls not only below the normal for the pregnant woman but even below the level for the non pregnant woman In eclampsia the values are reduced to the minimum probably because of a toxic paralysis of the reticulo endothelial cells which reduces their power of stor age causing at least a partial block of the system which robs the organism of one of its most powerful means of defense AUDREY G MORGAN M D

which constricted the proximal artery or prevented its dilatation

In the experimental animal dilatation of the heart may occur in the presence of a fistula with the proximal artery ligated indicating that a considerable volume of blood is being short circuited through the fistula the blood reaching it through the collateral circulation The thrill and bruit of a fistula may be temporarily obliterated by ligation of the artery proximal to the fistula but they promptly recur because of the development of an extensive collateral circulation In clinical cases ligation of the proximal artery alone is contra indicated because there is danger of gangrene and if gangrene is averted because failure to cure the fistula invariably follows as proved experimentally

MANUEL E LICHTENSTEIN M D

BLOOD TRANSFUSION

Kristenson A Observations on the Number of Thrombocytes in Thrombosis Produced Experimentally in Rabbits (Beobachtungen ueber die Anzahl der Thrombozyten bei experimentell an Kaninchen hervorgerufener Thrombose) *Acta med Scand* 1929 lxx 167

It has been previously demonstrated by the study of clinical material that the number of thrombocytes shows a tendency to decrease not only during and after venous thrombosis but also before the thrombosis is manifested clinically While the primary factor in the development of the thrombus is a white thrombus mass formed from thrombocytes this explanation leaves out of consideration the unknown or little known pathological processes in the vessel walls the blood and the circulation which may influence the number of erythrocytes in one direction or another on their own accord It therefore appeared to the author desirable to study the effect of thrombosis produced experimentally in animals

The findings in the experimentally produced thromboses also demonstrated that the formation of the white or primary thrombus is associated with a decrease in the number of thrombocytes The decrease seemed to bear a certain relationship to the size of the white thrombus This observation is based on the assumption that by means of serial determinations of thrombocytes it is possible to demonstrate the development of the primary thrombus If this assumption is correct it would be possible by means of such observations to make a diagnosis of the primary thrombus formation before the formation of the secondary or red thrombus which probably gives rise to the clinical symptoms

Such early recognition of the thrombosing process might be of importance in the prevention of its further distribution and might offer the possibility of diagnosing thromboses which up to the moment of appearance of pulmonary embolism often cause no clinical manifestations

LOUIS NEUWELT M D

Bird C F Transfusions in Acute Loss of Blood. *Arch Surg* 1929 xviii 1646

The author cites cases in which during an operation for intracranial tumor the blood pressure remained too low to be recorded for from thirty minutes to three hours but the patient recovered either spontaneously or following transfusion without detectable injury to nervous tissue or other permanent ill effect During this time the patient was well within a danger zone in which an increase in the blood volume was desirable

When the blood volume is depleted the following mechanisms help to maintain an efficient circulation (1) peripheral vasoconstriction (2) the transfer of fluid from the tissues to the blood stream partially making up the blood volume (3) increased stroke output of the heart (4) increased heart rate and (5) the transfer of red blood corpuscles from the spleen to the circulating blood stream Eventually however, a point is reached at which the minute cardiac output is decreased below a safe level A sustained increase in the blood volume will increase the minute cardiac output since if the strength of the myocardium is unimpaired the heart need only an adequate supply of fluid to allow it to pump efficiently

The fluid may be added to the blood stream in the form of physiological sodium chloride solution or Ringer's fluid gum acacia solution reinfusion of the patient's own blood (collected by a method described by Cushing and Davis) or best whole blood transfused from a suitable donor While rectal infusion or hypodermoclysis is desirable saline solution or Ringer's solution given intravenously has only a transitory effect in raising the blood pressure Gum acacia of a suitable osmotic pressure to sustain blood pressure contains more calcium than is desirable for injection and does not possess either the chemical or the physicochemical appropriateness ascribed to them by Bayliss

Epinephrin and ephedrin have uncertain actions when there is acute loss of blood but ephedrin does not cause the rapid depression of the circulation which occasionally follows the injection of epinephrin

The patient's own blood and whole blood from a suitable donor have the requisite osmotic pressure and viscosity to maintain blood volume They therefore sustain the minute cardiac output as is indicated clinically by a rise in the blood pressure to a recordable level and slowing and strengthening of the pulse

On rare occasions replacement of the patient's own blood has been found to produce a sharp and alarming fall in pressure instead of the expected rise Even though this fall is transient and is followed by marked improvement the possibility of failure in an emergency has led to the use of whole blood transfused directly

In the cases of twenty patients receiving twenty four transfusions the blood of the donor and that of the recipient were grouped and cross matched on

The needle used for the spinal anæsthesia is as fine as possible The puncture is never made high up and only fluid enough to dissolve the novocain is withdrawn The fluid is re injected slowly and the patient is put in the inclined position very slowly Syncope following the operation can generally be avoided if the patient is not moved for a period of twenty minutes

In some cases there were very painful intestinal spasms persisting for five or six hours after the ter mination of the anæsthesia A few cases of postop erative headache yielded to the intravenous injection of distilled water *In 3 instances there was paralysis* of the external popliteal and sciatic nerves

Operative maneuvers in the abdomen are facili tated by lumbar anæsthesia The mortality from bronchopulmonary complications after spinal an æsthesia is practically nil The author has had only 1 death attributable to this cause As preventive treatment of syncope consecutive to inferior dorsal spinal anæsthesia Cotte slowly injects immediately after the spinal injection from 1 to 2 c cm of cam phorated oil into the veins at the elbow Since using this method he has never had a case of anæsthetic syncope and has never been obliged to give an in tracardiac injection of adrenalin He suggests that the injection of camphor in aqueous solution might replace the preventive injection of caffeine or strych nine

PACE

Sise L F Spinal Anæsthesia Fatalities and Their Prevention *N England J Med* 1929 cc 1071

SISE states that persons of low bodily vigor are poor risks for spinal anæsthesia The patient may be rendered more resistant to a drop in the blood pressure by the pre operative administration of saline solution and glucose by hypodermoclysis Ephedrin is an effective prophylactic The dose in dicated varies from 50 to 100 mm depending on the patient s position

The anæsthetic is best administered with the pa tient lying on his side The Trendelenburg position is the one of choice as in this position the vital centers are well supplied with blood

The best prophylactic against collapse is early treatment of vascular depression Active treatment should be begun when the blood pressure reaches two thirds the normal This should include prepara tion for immediate change to the Trendelenburg position and the injection of epinephrin intramuscu *larly intravenously or directly into the heart* Apparatus for the infusion of saline solution and a machine for the administration of carbon dioxide should always be at hand Teamwork of the operat ing room personnel is especially important

GEORGE R MCAULIFF M D

Donald J Methylpropylcarbinol Urethane (He donal) The Physiological Action in Animals *Anes & Anal* 1929 viii 133

The author recommends hedonal for the induction of intravenous anæsthesia He uses a solution con taining 7 5 gm of hedonal 9 gm of sodium chloride and 60 gm of gum acacia to 1 000 c cm of sterile distilled water This solution is run in at a tempera ture of 105 degrees F from a height of 6 ft and at a rate of 50 c cm per minute Narcosis comes on fairly rapidly and without excitement

This type of anæsthesia is associated with marked relaxation and causes no irritation of the kidneys lungs or heart and no fatty degeneration of the organs It is therefore of value in diabetes anæmia and septic conditions in which hæmorrhage may be anticipated and may be employed to decrease the amount of a general anæsthetic necessary

GEORGE R MCAULIFF M D

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Paolucci F Autoplastic Grafts in Sensitized Rabbits (Gli innesti autoplastici nei conigli sensibilizzati) *Ann ital di chir* 1929 viii 264

The author reports experiments in which rabbits were sensitized by seven or eight injections each of 5 c cm of horse serum at intervals of six days and autoplastic grafts were applied from eighteen to twenty five days after the last injection He found that the grafts underwent necrosis in from four to six days As it has been proved fairly conclusively that autoplastic grafts normally take and survive for a considerable period Paolucci concludes that this necrosis must have been due to the sensitization It was similar to the necrosis occurring in burned rabbits except that it was more rapid The grafts behaved like foreign tissue rather than homologous tissue

Paolucci suggests that this result may have been due to an organic reaction of the anaphylactic type determined by the serum treatment (aspecific antibodies) or by the absorption of denatured proteins from the zone of necrosis by the Arthus phenomenon (specific antibodies) AUDREY G MORGAN M D

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Meleney F L Hæmolytic Streptococcus Gangrene The Importance of Early Diagnosis and Early Operation *J Am M Ass* 1929 xcii 2009

The author has seen eleven cases of hæmolytic streptococcus gangrene in the last four years He reports two cases in detail

The most important clinical characteristics of the condition are the rapidity of its development the profound prostration it causes and a dusky hue of the skin with or without blisters or bullæ which usually appears on the third fourth or fifth day The margin of the involved area is not raised and usually is not clearly defined The condition differs from ordinary streptococcus cellulitis in the greater rapidity of its development the rarity of associated lymphangitis and lymphadenitis and the early appearance of the dusky color of the skin or blisters

Incisions should be made as soon as the diagnosis is made If the incisions are adequate the process will promptly subside and the skin which is not yet dead will be preserved Prompt operation makes all the difference between rapid resolution of the process on the one hand and great destruction of tissue if not metastasis and death on the other

EMIL C ROBITSHEK M D

ANÆSTHESIA

Cotte G Twenty Two Hundred and Seven Cases of Spinal Anæsthesia (Quelques réflexions sur 2 207 cas de rachianesthésie) *Bull et mém Soc nat de chir* 1929 lv 127

Since 1913 the author has had experience with more than 4 000 spinal anæsthesias but this report is based on his work only from 1923 to the present time during which interval he had only 2 deaths from spinal anæsthesia and no cases with meningeal symptoms or ocular paralysis The first death occurred in 1919 It was that of a man aged sixty years who was suffering from emphysema bronchitis and a very large strangulated inguinal hernia It occurred a few minutes after the injection in spite of the use of the usual stimulants The second death was that of a woman with an ovarian tumor In this case the injection was followed after several minutes by serious syncope but the latter yielded to an intracardiac injection of adrenalin Complete abdominal hysterectomy was performed The syncope then recurred and proved fatal

In the period from 1923 to 1927 the author performed 1 155 gynecological operations Of these 1 049 were done under spinal anæsthesia 82 under general anæsthesia and 23 under local anæsthesia In the same period 110 of 241 operations on the stomach duodenum liver or biliary ducts were performed under spinal anæsthesia 33 under general anæsthesia and 98 under local anæsthesia

In supra umbilical operations the number of insufficient anæsthesias was somewhat greater than in infra umbilical operations probably because the author never injects the novocain solution above the eighth or ninth dorsal vertebra

Except for 200 or 300 cases in which he used but efline recommended by Sarvonnat Cotte always employed solutions of 4 5 or 8 per cent pure novocain—scurocaine allocaine neocaine syncaine etc without the addition of adrenalin As the ampoules were not always fresh he adopted the method of making his solutions at the time he used them For three years he has employed ampoules which contain 0 10 gm of crystallized scurocaine in powder form which he dissolves in 2 c cm of cerebrospinal fluid The spinal fluid is drawn into a syringe and then turned into the sterilized ampoule containing the scurocaine Aspirated with the same syringe the solution is injected into the subarachnoid spaces This technique gives uniform anæsthesias and is seldom followed by headache

About an hour before the operation the patient receives 1 mgm of strychnine sulphate and 0 25 gm of caffeine During operation he is given from 500 to 800 gm of salt solution by subcutaneous injection

the carcinoma cells in the transplant with those of the original tumor A Filatov (Z)

Flashman D H and Leopold S S Leucosarcoma With the Report of a Case Beginning with Primary Retroperitoneal Lymphosarcoma and Terminating with Leukemia (Am J M Sc 1929 clxxvii 651

All degrees of lymphoid hyperplasia are found in various types of disease of lymphoid tissue At one end of the scale are the benign hyperplasias and at the other end the atypical and invasive lymphosarcomata Between these is the typical lymphatic leukæmia with generalized hyperplasia of the lymphoid tissues and a lymphæmia This usually shows only slightly atypical cells and lacks the highly invasive character of the lymphosarcoma Intermediate between lymphatic leukæmia and lymphosarcoma is the leucosarcoma characterized essentially by the combination of a more or less localized primary and invasive lymphoid tumor and a leukæmic blood picture

The case reported by the authors was that of a man sixty years of age who had had a swelling in the right inguinal region for twelve months Biopsy revealed the presence of a lymphosarcoma and X ray examination showed a tumor in the pelvis The leucocyte count was normal During a period of several months of X ray treatment the blood examinations were negative A month later the patient developed leukæmia with a leucocyte count which rapidly increased to 444 000 cells per cubic millimeter and a differential count of from 90 to 96 small lymphocytes Death resulted

Autopsy revealed a primary invasive lymphosarcoma in the inguinal and retroperitoneal regions in extensive involvement resembling leukæmia of most of the lymphoid system the liver the spleen and the bone marrow of the right femur and metastatic nodules in most of the organs The tissue showed large lymphoblasts small lymphocytes and intermediate types in various combinations indicating that these cells represent different degrees of hyperplasia or a differentiation The picture appeared to be intermediate between that of the typical lymphosarcoma and that of lymphatic leukæmia rather than a combination of two separate entities The case belonged in the group of leucosarcoma

Samuel Kahn M D

GENERAL BACTERIAL PROTOZOAN AND PARASITIC INFECTIONS

Melzner E Experimental Studies in the Treatment of Tetanus with a Combination of Curarin and Avertin (Experimentelle Untersuchungen ueber die Behandlung den Wundstarrkrampfes mit einer Kombination von Curarin und Avertin) *Deutsche Ztschr f Chir* 1928 ccxii 308

For the symptomatic treatment of tetanus the author recommends in addition to serum treatment the combined use of avertin and curarin (Boehm) When both of these drugs were administered to mice in which a tetanic condition had been induced by the administration of tetanus toxin the relief of the spasmodic condition was more marked than when either drug was given alone Therefore a synergistic effect of the two preparations is to be assumed It may be inferred also from these experiments that in the human subject the dosage of avertin may be reduced when the avertin is combined with a small amount of curarin Sonntag (Z)

Stephanenko L Autohæmotherapy in Septicæmia (Zur Frage ueber die Autohaemotherapie bei Septicaemie) *Arch Chir* 1928 vi 473

The author uses autohæmotherapy in septic conditions and regards it as the method of choice About 25 c cm of blood taken from the ulnar vein are injected into the subcutaneous cellular tissue in various parts of the body In this manner Stephanenko treated three patients with multiple abscesses in the subcutaneous cellular tissue In two cases the condition was particularly severe with high fever and delirium In two cases the staphylococcus albus and in one case the streptococcus aureus was demonstrated in the blood

One patient received five another ten and another eleven injections at intervals of three or four days In one case the blood was injected in small portions (5 c cm) and in two cases from 10 to 15 c cm were given at each injection The general reaction was expressed in a rise of the temperature lasting for from three to five hours After the second injection the pain became less severe and the temperature began to fall In all three cases smooth healing resulted Fatjanov (Z)

DUCTLESS GLANDS

Biedl A The Hormone of the Anterior Lobe of the Hypophysis (Ueber das Hormon des Hypophysevorderlappens) *Endokrinol* 1929 ii 241

After reviewing the literature on the hormonal activity of the anterior lobe of the hypophysis Biedl describes the method he used in preparing his product Part of his hormone was obtained from the urine of gravid women a source used also by Zondek and Ascheim The urine was concentrated to one tenth its volume in a vacuum at 40 degrees C precipitated salts were removed by centrifugalization the supernatant liquid was extracted with four times its volume of alcohol and the resulting precipitate was washed with alcohol ether dried redissolved in water shaken again centrifugalized reprecipitated with alcohol and finally again dissolved in water

The hormone can be obtained also from the fresh gland by grinding the gland up treating it with twice its volume of water subjecting the mixture to electrical dialysis and then concentrating the clear watery dialysate in a vacuum In another procedure the fresh glands are extracted with 0 5 per cent tartaric acid at room temperature for

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Thomson D B The Influence of Sepsis and Endocrine Disturbance on Carbohydrate Metabolism *Glasgow M J* 1929 cxii 25

In all of ten cases of diabetes with supervening sepsis in which the author carried out the glucose tolerance test the blood sugar was found to be increased at the height of the sepsis Evidence of a disturbance of carbohydrate metabolism was presented also by thirty six of fifty non diabetics with sepsis and eleven of thirteen patients with exophthalmic goiter In both of two cases of acromegaly glucose feeding was followed by glycosuria although there was no marked evidence of impairment of carbohydrate tolerance In one case of Froehlich's syndrome there was a slightly abnormal blood sugar curve with glycosuria

MAURICE MEYERS M D

Topley W W C The Natural Acquirement of Immunity *Lancet* 1929 ccxvii 1337

The acquirement of specific antibacterial immunity depends upon the production of specific antibodies which sensitize the bacterial cell The sensitized bacteria are more readily ingested by the phagocytic cells of the tissues and in some cases are acted upon by other non cellular agents which destroy them or inhibit their invasive activity These specific antibodies are produced or increased in amount in response to the entry into the tissues of bacteria which contain the corresponding antigens For each antigen there is only one corresponding antibody

Every pathogenic bacterium contains several antigens which are of unequal importance in immunity reactions *in vivo* The presence of the antibody corresponding to one particular antigenic component may modify the course of events in favor of the host The presence of the antibody corresponding to another antigenic component may be without effect This difference in the immunological significance of different antigens probably depends on their position in the bacterial cells The acquirement of specific antibacterial immunity depends on the production of antibodies acting on the effective bacterial antigens

The condition of an animal which has acquired immunity differs from that of a normal animal not only in the presence of the effective specific antibody in the blood and body fluids but also in the readiness with which this antibody is produced in response to further stimulation

During the process of natural immunization foci of infection are formed in the tissues and may persist over long periods of time The animal is relatively immune to fresh infections from without and to the spread of infection beyond the localized foci This specific immunity depends upon the maintenance at a high level of the clearing mechanism of tissues which ensures the prompt removal of bacteria gaining access to the lymphatics or blood vessels It may be overcome by massive infection from without or by the action of various non-specific factors which cause a spread of infection from the latent foci Evidence does not suggest that the bacteria in such latent foci become avirulent In some cases they may return to their full virulence over long periods of time EARLE I GREENE M D

Fenger E P K and Petter C K Active Tuberculosis and Cancer in the Same Individual *Minnesota Med* 1929 xii 271

The authors report eight cases of active tuberculosis and cancer in the same person and call attention to the rarity of the combined lesions In the literature they were able to find the reports of only sixty one cases of the combined lesion in the same organ

They believe it probable that except in the case of lupus which seems to predispose to epithelioma there is neither specific favoritism nor specific antagonism between the two diseases Neoplastic growth may be favored by a combination of scar tissue with tuberculosis as the tuberculous process is both an irritated area and an area of enfeebled resistance The two lesions might more often coexist were it not that the parts frequently invaded by one are not attacked by the other and the age at which cancer is most frequent is higher than that at which tuberculosis is most common

JACOB M MORA M D

Nevjadomskij M Heterologous Carcinoma Transplants (Ueber heterologische Carcinomtransplantate) *Zbl f Gynäk* 1928 xv 1005

The author succeeded in transplanting part of a carcinomatous gland from a human being into mice The gland was removed at biopsy from a patient with primary carcinoma of the skin chopped up and mixed with physiological sodium chloride solution in the proportion of 1 to 10 The mixture was then injected into three mice the injection being made under the skin of the back

Small nodules became palpable in the region of the transplant after an interval of ten days in the cases of two of the mice and a week later in the case of the other mouse All of the animals died with the signs of general cachexia—one after one and a half months and the two others after three months Histological study showed complete agreement of

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NOTE —THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

SURGERY OF THE HEAD AND NECK

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twelve hours the crude extract is neutralized with sodium bicarbonate and after precipitation of the albumin, the hormone is isolated by electrical dialization or absorbed by animal charcoal and extracted with water Filtration is avoided in all methods of preparation because of the tendency of the hormone to adhere during precipitation

For standardization of the hormone Biedl Zondek and Ascheim have used infantile mice Biedl does not employ the Zondek and Ascheim standard as their unit causes hæmorrhagic spots to appear in the ovary and he believes that such spots indicate that the ovary has already atrophied and has been *invaded by the lutein cells* He uses just enough hormone to cause the uterus to enlarge and follicles to appear in the ovary *From* 0 *to* 0 5 mgm *of* Biedl s dry preparation depending upon its purity *is equivalent to one mouse unit* *Biedl has caused* rutting in mature bitches thus confirming the Zondek and Ascheim theory that the hormone from the anterior lobe of the hypophysis is an activator of the ovary *He reviews the report of Ehrhardt and* Wiesbader on the therapeutic action of the hormone in clinical cases and cites several cases of his own Therapeutically he uses from twenty to twenty three units which is approximately half of Zondek s dose

Four patients suffering from amenorrhœa were treated by the author One of these who had not menstruated since her last pregnancy seven years ago despite treatment with hormovar began to menstruate the day after an intramuscular injection of the hormone of the anterior lobe of the hypophysis In the cases of two males with small sella turcica and underdevelopment intensive treatment every other day resulted in a slight loss of weight but in one such patient it was followed by hypertrophy of the penis and testis and thickening of the pubic hair

It has not yet been determined whether a single course of treatment is sufficient or whether a combination therapy including th œstral hormone *should be employed* in amenorrhœa Biedl warns against over treatment agreeing with Zondek regarding its dangers FLESCH (G)

Zondek B Further Research with Regard to Preparation Biology and Clinical Usage of the Hormone of the Anterior Lobe of the Hypophysis Prolan (Weitere Untersuchungen zur Darstellung, Biologie und Klinik des Hypophysenvorderlappenhormons *Prolan)* *Klin Wchnschr* 1929 i 157

The active principle of the anterior lobe of the hypophysis which Zondek isolated and called prolan is found to be *more labile than the follicular* hormone since its activity is destroyed by boiling by acids and by alkalies As prolan is insoluble in most of the fat solvents it may be precipitated from *such aqueous* solutions as the urine of gravid women by the addition of ethyl alcohol methyl alcohol or acetone The ovarian hormone may then *be separated from the precipitate by the addition* of water

The preliminary research previously reported was done on mice and rats but was completed on rabbits In rabbits ovulation *does not occur spontaneously but follows coitus* Prolan has a marked effect upon the genital tracts of both adult and immature animals Following its administration the uterus enlarges to the thickness of a finger and becomes a bluish red and the ovaries which were the size of small millet seeds become as large as cherries and develop many bluish red hæmorrhagic spots and yellow corpora lutea The muscle wall of the uterus and vagina thickens markedly The uterine mucosa becomes polypoid simulating the type found during pregnancy The primary follicles of the ovary are invaded by the extensive granulosa and *theca development and by lutein cells* *In these* primary follicles prolan by activating folliculin causes early maturity protracted œstrus and pregravid changes It may then cause marked luteinization *and saturation of the primordial cells with a* material taking the Sudan stain which prevents further ripening of the follicles It was thus possible to cause follicular rupture and find fertilized ova in the tubes a result which previous research with the implantation of fresh hypophysis had failed to achieve

In clinical cases the use of prolan is limited because of the difficulty of establishing the dose which will be effective but not inhibit ovulation The dose cannot be determined simply from the relationship of the weight of the experimental animal to that of the human subject as rats and rabbits were found more sensitive than mice and human subjects even more responsive than the rats and rabbits Zondek concluded that the proper dose in clinical cases is sixty rat units given in a solution containing thirty *rat units per cubic centimeter* *He found* that this small dose is sufficient for activation in cases of marked ovarian hypofunction Co-workers of Zondek have demonstrated that 3 c cm of prolan which contains ninety rat units will increase the blood cholestrin by 50 per cent

The intramuscular injection of prolan will cause marked hyperæmia and will elevate the temperature of the female pelvic organs 0 5 degree Its injection *from one to eight days after the menses will change* the uterine mucosa to the type found on the eighteenth day Only two of a large series of women began to lactate as a result of the treatment but *five of ten hypohormonal women who were given* injections for from seventeen to thirty days began to menstruate and thereafter menstruated regularly at intervals of four weeks In two other cases menstruation was not awaited but curettage revealed the beginning of premenstrual changes in the uterine mucosa

The clinical use of prolan is still in its infancy Zondek warns that much damage may result because of the intense *biological reaction it causes* if it is used carelessly FLESCH (G)

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EDITOR'S COMMENT

LACAZE and Melnotte's paper on hepatic amœbiasis and its treatment (p 5 3) emphasizes a number of points of particular interest to the surgeon whose contact with amœbic disease is so infrequent that he feels himself on unfamiliar ground when suddenly confronted with a serious case of suppurative disease of the liver The fact that puncture of the liver can be done with safety and that in the authors experience with 5 000 cases of dysentery it has never been followed by a serious accident the fact that larval forms of dysentery are followed by amœbic abscess as frequently as acute dysentery and the fact that suppuration may take place without secondary infection are worthy of mention especially so since they are contrary to ideas frequently expressed and taught

The presence of only a small amount of fluid in the pleural cavity when the pleura is involved the high leucocyte count which may reach 50 000 in chronic cases and the absence of eosinophiles when other intestinal parasites are absent, are objective findings worthy of note

With reference to treatment the authors emphasize the fact that when suppuration has occurred the disease must be treated according to the principles of the surgical treatment of abscesses elsewhere Since multiple abscesses are frequent extensive exploration of the liver is often necessary and the operative procedure should be planned accordingly Abscesses should be opened and drained never irrigated or curetted Emetine should always be given and should be continued for long periods because of the marked tendency toward remissions

Three unusual forms of surgical pathology involving the intestinal tract are discussed in three papers recently appearing in French surgical journals primary epithelioma of the jejunoileum hæmorrhagic infarct of the ileum due to venous thrombosis and volvulus of the cæcum The first is discussed by D Allaines in a report based upon 66 cases from the literature and a sixty seventh of his own (p 517) He emphasizes as important pathological characteristics of such growths their annular form their slow growth their tendency to remain localized for a considerable period of time and the almost constant changes—dilatation hypertrophy and œdema—which occur in the bowel proximal to the growth. The characteristic roentgenograms resulting from these changes are the most helpful factors in establishing a diagnosis

Because there are the same number of veins as arteries in the mesentery Lapointe states that obstruction of a vein endangers the vitality of the intestine just as much as obstruction of an artery (p 518) He reports a case in which symptoms of intestinal obstruction developed in a seventeen year-old patient four months after operation for gangrenous appendicitis At the second operation hæmorrhagic infarction of 1 meter of the ileum was found. The arteries to the infarcted segment were permeable but the veins were filled with clots The author cites this case as additional proof of the contention that intestinal infarction can be caused by venous as well as by arterial thrombosis Rothschild s studies of the effect upon the bowel of ligation of the mesentery at various locations(p 514) are of especial interest in connection with this case

Volvulus of the cæcum according to Wilmoth (p 519) is that condition in which the torsion is limited to the cæcum ascending colon and terminal portion of the ileum It does not include cases in which the cæcum is rotated about a transverse axis as the result of adhesions or cases in which the greater part of the small intestine is involved Lenormant observed it in only 3 of 88 cases of intestinal obstruction The importance and gravity of the condition and the necessity for its prompt recognition are emphasized by the fact that of 168 cases collected by Podlaka recovery resulted in only 38 per cent

Wellbrock s study of 1 000 thyroid glands removed at operation with particular reference to the presence of accessory parathyroid glands (p 505) Conwell s discussion of the treatment of fractures of the shaft of the femur in children (p 562) and Papin s discussion of the treatment of the tuberculous bladder after nephrectomy (p 549) are 3 of many other stimulating and helpful papers abstracted in this month s issue of the ABSTRACT

INTERNATIONAL ABSTRACT OF SURGERY

DECEMBER 1929

LANDMARKS IN SURGICAL PROGRESS

By IRVING S CUTTER M D Sc D Chicago
Dea Northwestern Uni ity Me l cal School

MASON FITCH COGSWELL AND THE TYING OF THE COMMON CAROTID ARTERY

HERBERT THOMS M D F A C S New Haven Connecticut

THE more one becomes familiar with the lives of pioneers in med icine and surgery the more im pressive is the fact that chance played but a minor part in the success of their endeavors It becomes apparent that men who do things are men who are prepared to do them The pioneers of American surgery without exception were men in whom existed a happy combination of boldness of spirit and soundness of learning

Mason Fitch Cogswell of Hartford who first recorded the ligation of the common carotid artery was no excep tion to this rule His life as a surgeon and a leader of medical thought was illustrious with achievement Dr Cogswell was born in Canterbury Connecticut September 17 1761 After graduating from Yale College in 1780 he began the study of medicine with an older brother in Stamford Connecticut During he Revolutionary War he was an army surgeon In 1789 he began his practice in Hart ford and soon became known throughout Con necticut as an able surgeon and obstetrician His dexterity as a surgeon may be judged from the fact that he is said to have amputated a thigh in forty seconds Dr Cogswell was one of the orginal members of the Connecticut



Mason Fitch Cogswell (1761–830) [1]

Medical Society which was organized in 1793 In 1812 he was chosen presi dent of this organization Dr Cogs well also played an important part in the establishment of the Yale Medical School—and during the first year of its career occupied the Chair of Ana tomy and Surgery In Connecticut he is perhaps best known as a pioneer in the education of the deaf and dumb and in the treatment of the insane His activities were responsible in no small measure for the establishment of two early institutions— The Amer ican Asylum for the deaf and dumb and The Hartford Retreat for the Insane Apart from his medical activities was his membership in that unique group of young literary men who are known to us as The Connecticut Wits The record of the tying of the common carotid artery is not only a splendid description of operative procedure of that day but also a fine exposition of the mind and skill of its distinguished author

In the year 1800 Mrs L of Lebanon about 35 years of age came to consult me respecting a tumour situated on the left side of her neck occu pying nearly the whole of the hollow between the outer angle of the jaw and the superior part of the sternum pressing on the trachea in a measure

A lb tt th poss f th l b ry f Y l L vers ty

that at times considerably impeded her respira tion She sometimes suffered from its inconveni ent size, but never from pain I advised an imme diate extirpation she consented and I removed it without difficulty Its character was that of a firm sarcoma *resembling a goose egg in shape and* smoothness and weighing exactly a pound No vessel was divided during the operation which re quired a ligature the wound healed by the first intention and she rode home on horse back in about ten days from the operation About two years after she renewed her visit on account of another tumour of a very different character from the former on the same side of the neck and origi nating in the parotid gland about three inches from the base of the other It commenced she informed me about six months previous in a *small lump when she first discovered it not larger* than a pea, that it had increased rapidly since and at times gave her severe pain It was now about the size of a hen s egg had a very hard and un equal surface and left no doubt of its being a genuine carcinus, and of a very malignant char acter from its commencement I advised an im mediate removal and stated to her the danger of delay She said she was not prepared for the oper ation promised to attend to it soon and returned home I heard no more from her until November 1803 when the fear of immediate death her intol *erable sufferings and the universal desire which* we all have to live a little longer induced her once more to apply for relief I visited her on the 4th of November 1803 when I met in consultation Drs Watsons Clark Peters and Strong These gentlemen were from the neighbouring towns with all of whom I had for a considerable time been well acquainted and on whose judgment and professional skill I could confidently rely Her situation was indeed a deplorable one She was much emaciated had hectical flushes night sweats cough and expectoration accompanied with intol *erable pains almost constantly darting through* the tumour which threatened her at times from its pressure on the trachea with instant suffoca tion Nothing but the softest liquids could be forced down with the utmost exertion so much was she enfeebled *from want of sustenancy that* she could scarcely support her weight and such *encroachments* had death made upon her coun tenancy that it seemed like rashness or folly to attempt her relief Her mind however was unsub dued and throughout the whole of the subsequent scene she manifested the most unyielding forti tude All the gentlemen concurring with me in opinion I represented to her the extreme danger that would attend the operation that she might possibly and perhaps *probably die* in my hands still as she must inevitably die in a few days with out it if she desired it I thought it my duty to undertake it. After a reasonable time or consider ation she determined to submit to the only alter native which presented for prolonging her life Her sense of her own danger she manifested most affectingly in the solemn and impressive *manner* in which she commended her soul into the hands of Him who gave it as she approached the table on which the operation was performed The tu mour spread over the whole of the left side of her *neck extending from the ear to the junction of the* clavicle with the sternum sweeping over the tra chea rising above the edge of the under jaw pressing on the mastoid muscle and resting on the hollow bed of the clavicle I commenced the oper ation by a crucial incision and after separatin the skin for there was nothing but skin to sep arate I had to proceed through every part of the operation with the utmost caution If the external appearance was unequal the internal was much more so its processes extending themselves be neath almost every muscle and tendon in the neck *hence the extreme difficulty* and danger at tending the operation and hence the tedious length of an hour to which it was extended After dissecting around the tumour nearly to its base I called the attention of the gentlemen to the situ *ation of the carotid artery and on a careful* exami nation we found it completely enveloped by the tumour I immediately laid it bare encircled it with a broad, flat ligature tied and divided it about half an inch from the knot The remaining part of the operation was finished as *speedily* as was consistent with the safety of our patient and with but little hemorrhage and though extremely feeble she was not faint She bore the operation with surprising fortitude almost without a strug gle or a groan The wound was immediately dressed she was removed to her bed and an ano dyne administered she likewise took some nour ishing cordials with great refreshment as she had not been able to swallow but with great difficulty for some months previous Dr Watsons and *my* self remained with her through the night she slept *quietly and* without pain having felt none after the smart of the operation was over so widely different was her situation in the morning from what it had been for months before that she *felt*, (to use her own expression) like commencing a *new existence* As I lived about thirty miles from her I left her under the care of Dr Watsons He removed the dressings on the fourth day from the operation and found everything as it should be The wound healed kindly her hectical symptoms

vanished the ligature cast off on the 14th day and she recovered her health and strength so rapidly that nothing now seemed to forbid a perfect recovery and had her attendants been possessed of ordinary sagacity the fatal event which succeeded might have been averted On the 20th day from the operation when every thing was doing well a slight hemorrhage commenced from one of the anastomosing arteries under the fore part of the jaw which in all probability the slightest compression would have controlled Dr Watsons resided three miles from her and the messenger had to extend his ride six miles further before finding him and although the hemorrhage was moderate yet so much time had elapsed before the arrival of the Doctor that the loss of blood was more than she could sustain in her feeble state She had not a sufficiency left to support the feeble powers of life and she gradually declined and died a short time after rejoicing that she had submitted to an operation which had relieved her from the most fearful agonies and enabled her to enjoy rather than to suffer a peaceful death

'Thus in the event the case terminated fatally, yet the circumstances attending it were such as entirely to establish the practicability and safety of dividing the carotid artery on the living subject

'It ought to be added that in tracing the progress of the artery in the tumour, although it was fully open on the lower side it was impervious to the smallest probe beyond its centre indeed there was no trace of it to be found on the side next the jaw How long the communication between the heart and the head through this artery had been interrupted could not be determined some two or three months however is probable as from about that time she felt a sensation of uneasiness rather than pain throughout the whole of the external covering of the left side of her head

ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

McCafferty L K and Lopez V A Small Benign Tumors of the Face *N York State J M* 1929 xxix 653

The tumors considered by the authors are adenoma sebaceum multiple benign cystic epithelioma tricho-epithelioma syringocystadenoma and hidro cystoma With the exception of adenoma sebaceum these neoplasms are almost impossible to differen tiate clinically From the point of view of embry ology they are all related They are derived primarily from the ectoderm

The authors discuss the histological history of the first type of tumor Two types are recognized the type described by Balzer and the type described by Pringle The Balzer type is rare Histological sec tions of both types are shown The chief histological features differentiating the Balzer type from the Pringle type are hyperpla ia and a fibrous tissue *capsule The Pringle type is characterized by hyper* trophied connective tissue with dilated vessels

The histological characteristics of multiple benign *cystic epithelioma* and the other tumors *mentioned* are described Syringocystadenoma and hidro cystoma are tumors of the sweat ducts and histolog ically distinct from the first two tumors mentioned *Syringocystadenoma* consists of dilated sweat ducts with an associated increased fibrous tissue element Hidrocystoma is rare and con sists of an extreme dilatation of the sweat ducts near the coil gland and directly connected with the coil gland below and the continuation of the excretory duct above

These tumors are best treated by superficial desiccation They are not readily affected by the roentgen ray The desiccation must be very super ficial W A Rowley M D

Bishop P A A Roentgen Consideration of the Temporomandibular Joint *Am J Roentgenol* 1929 xxi 556

The roentgenographic demonstration of the tem poromandibular joint has always been very difficult None of the techniques previously described has been wholly satisfactory In Bishop s technique the pa tient is placed in the position usually employed for examination of the lateral skull At a distance of 4 in from the uppermost joint the tube is shifted toward the top of the head for a distance of 0 in and then angulated 30 degrees downward toward the joint Stereoscopic films may be made with this technique

The author reports eight cases examined by the technique described and exhibiting a variety of con ditions but chiefly dislocations or fractures He emphasizes that dislocations and fractures of the neck may be complications of injuries to other por tions of the mandible He advises examination of the joint in all cases of injury to the mandible In addi tion to lesions due to trauma he reports cases of ankylosis effusion into the joint and destruction to malignancy Charles H Heacock M D

EYE

Lebensohn J E Oculovisceral Reflexes *Am J Ophth* 1929 xii 162

The author reports experiments he performed upon himself He swallowed a stomach balloon connected with a water manometer and recorded by tracings on a slowly revolving drum the effect produced on gastric mobility by astigmatic errors and muscular imbalances artificially induced by the wearing of cylinders and prisms respectively The errors and imbalances exerted a repressive effect on the motor function of the stomach which dis appeared on removal of the asthenopi irrita t Lebensohn believes that the irritative reflex occurs by way of the trigeminal and splanchn nerves Seven tracings are included in the report

The work of Pearcy and Allen showing a regular reduction in amplitude of accommodation on over distention of the stomach is cited

Thomas D Allen M D

***Herbert H* On the Cement Substance of the Intra Ocular Muscles and Chronic Glaucoma** *Br J Ophth* 1929 xiii 289 337

The cement of the plain muscle of the eye is of interest to ophthalmologists mainly because it in cludes the demonstration of a complete glaucoma mechanism and throws a good deal of light on the filtration angle In its watch spring elasticity and exceptional resistance it resembles hyaline mem brane It is continuous with hyaline membrane at the base of the iris and at the origin of some of the ciliary muscle bundles In the pupillary dilator it seems needed to bring the base of the iris back into position automatically after each act of accommoda tion Similarly a watch spring recoil is needed in the pupillary sphincter In the ciliary muscle hya line tissue is necessary to facilitate the action of the circular muscle bundles A hyaline free gap con stituting a serous defect is found through the

corona in the elevated zone of the ciliary body and in the anterior portion of the orbiculus This gap tends to widen throughout life and the stretching may have a bearing on the origin of glaucoma

In many cases of chronic glaucoma the sinus of the anterior chamber has a thick posterior inner wall made up mainly of an extension of ciliary body tissues supporting the iris base the open angle of the chamber has been displaced by pressure of the aqueous so that it lies abnormally far beyond the level of the scleral furrow and of Schlemm s canal the meridianal bundles of the ciliary muscle fail to reach near to the level of Schlemm s canal and the middle and inner parts of the muscle are neither broad nor closely packed Anatomically it is found by exclusion that the muscle cement bears and transmits some of the tension of the zonule in the muscle area GEORGE R MCAULIFF M D

Gradle H S Heterochromia Iridis with Cyclitis and Cataract *Am J Ophth* 1929 xii 541

In the author s opinion heterochromia iridis with cyclitis and cataract should be regarded as a definite clinical entity although the cyclitis is often so slight as to render its presence doubtful The de coloration of the iris is always present and is to be regarded as a sequel to not a precursor of the uveitis A mild form of glandular tuberculosis is commonly regarded as the cause Cataract is always a com plication coming on a few months or years after the onset of the disease

The article begins with a discussion of the litera ture and ends with a clinical review of ten cases seen by the author THOMAS D ALLEN M D

Atkinson D T The Artificial Pupil as a Means of Restoring Vision *J Ophth Otol & Laryngol* 1929 xxxii 155

Cases in which an artificial pupil may restore vision are classified as follows

1 Those in which as the result of iritis the pupil has become adherent to the anterior capsule of the lens the pupillary opening being entirely obliterated by organized lymph

2 Traumatic cases in which for instance a corneal wound has been closed by an incarcerated iris with resulting pupillary occlusion

3 Partial opacities of the cornea due to gonor rhœal or other corneal ulcerations

4 Postoperative occlusion of the pupil usually occurring in cases of cataract and due to organized blood or lens tissue or a rolled up capsule adhering to the pupillary margins

5 Cases of cataract of the nuclear type with ar rested development

Cases in the first group can be benefited only by iridocapsulotomy with extraction of the lens This is applicable to all cases except those of the young

In cases of the second group the best procedure is detachment and excision of the iris

In those of the third group iridectomy below the clear portion of the cornea is indicated When only a small portion of the cornea is clear the section should be made through the sclera instead of the cornea

In cases of the fourth group Kuhnt s operation is indicated Optical iridectomy is never contra indicated in the nuclear type of senile cataract It lessens the risk of iritis and the development of glaucoma

Before any of these surgical procedures is at tempted conditions such as chronic cough chronic blepharitis eczema of the lids chalazia tarsal cysts and styes entropian with trichiasis chronic purulent dacryocystitis recently acquired syphilis chronic keratitis recurrent iritis pyorrhœa etc should be cleared up if possible and the patient or his friends should be informed of the possibility of complica tions even in apparently favorable cases Any un toward complications however slight should be clearly stated in order to mitigate the patient s distress if a good result is not obtained

Operations should be done under 10 per cent co caine anæsthesia with adrenalin chloride 1 drachm to the ounce For general anæsthesia nitrous ox ide is best

The postoperative dressings are similar to those of ordinary cataract extraction The patient s room should be kept dark and well ventilated

The author reports several cases

LESLIE L MCCOY M D

Law F W An Inquiry into the Occurrence and Effects of Vomiting After Cataract Extraction *Brit J Ophth* 1929 xiii 358

Of 141 cases in which cataract extraction was done the operation was followed by vomiting in 15 Twelve of the patients with postoperative vomiting were women The vomiting had an unfavorable effect in 5 cases in it was followed by prolapse In 10 other cases prolapse occurred without dis coverable cause

The author does not approve of pre operative starving of the patient as he finds that vomiting is less apt to occur when the patient is well fed

GEORGE R MCAULIFF M D

EAR

Fraser J S and Davis E D D Maldevelop ments of the Auricle External Acoustic Mea tus and Middle Ear *Proc Roy Soc Med* Lond 1929 xii 1297

Seven varieties of malformation of the auricle are seen the pointed ear the auricle in which the helix hangs down like a flap the auricle with a split lobule or no lobule the cat ear the auricle with a longitudinal swelling the microtic ear in which the auricle is displaced downward over the mandibular joint or onto the cheek and the ear without an auricle

The external auditory meatus may be occluded by connective tissue or bony atresia The Eustachian tube is usually present but in some cases may not contain cartilage

In the middle ear the ossicles especially the malleus and incus may be malformed and the tendinous attachments of the tensor and stapedius may be misplaced

The labyrinth usually appears normal in the presence of such malformations as it is developed independently of the middle and external ear

GEORGE R MCMILLEN M D

Smith F Congenital Arteriovenous Fistula in the Tympanum *Arch Otolaryngol* 1929 x 32

Smith reports a case of congenital arteriovenous fistula of the jugular bulb and the internal carotid artery The patient stated that deafness and a constant pounding noise had been present in the right side of the head since childhood There was total absence of the bony floor of the tympanum and the external canal A pinkish blue pulsating mass presented in the external canal

When the patient was twenty four years of age he sought medical treatment because of a spontaneous hæmorrhage from the right ear canal The hæmorrhage was controlled by packing The treatment consisted in obliteration of the right lateral sinus and ligation of the jugular vein and several large veins in the region of the carotid sheath The middle ear and canal were packed with gauze and the mastoid incision was closed Nearly six months later a secondary operation was performed on account of pain and several slight hæmorrhages The original incision was re opened and the sac exposed and dissected free A flap was then taken from the side of the neck and used to cover the floor of the canal and middle ear It was held in place by dental compound Poor healing necessitated a secondary operation This procedure was followed by firm healing and uneventful recovery

When the patient was discharged a slight pulsation was noticed in the transplanted flap Recovery is apparently permanent

W M PATON M D

Neer E D Cholesteatomata *Surg Cl N Am* 1929 ix 709

Otic and sinus cholesteatomata are not tumors but the result of an exaggerated effort on the part of the body at self healing in a two stage process (1) insidious bone destruction cavitation by infection and (2) excessive proliferation and accumulation of epithelial cells within the cavity They differ from brain cholesteatomata which seem to arise from cell inclusion and to have none of the characteristics of infection or inflammation

Otic cholesteatoma may be entirely free from symptoms until signs of intracranial involvement appear The diagnosis is often not made until such signs are noted or operation is performed A foul otic discharge and periodical or permanent headache are suggestive

Radial mastoidectomy is the logical treatment If it is performed before intracranial complications arise the prognosis is good

MANFORD R WALTZ M D

Precechtel A Inner Ear and Cerebellar Changes in Pathological Fetal Position Their Significance for Static Disturbances in the Earliest Periods of Life and for Some Anomalies of Speech *Laryngoscope* 1929 xxxix 421

Pathological changes in the static system were found in five of six cases of abnormal fetal position In three cases the brain was not examined but in two of them changes in the middle ear were discovered In two cases histological changes were apparent in the middle ear and in the central nervous system In one case changes were found only in the central nervous system The peripheral changes were either unilateral or bilateral They consisted of a degeneration of the neuro epithelium in the cochlea and in the vestibular apparatus In one case an extensive primary disturbance of the development of the inner and middle ear was found

The central changes affected the medulla the mid brain and even the hemispheres The cerebellum was always involved The changes were extensive and consisted of hypoplasias clefts and tectonic disturbances

The author believes that the lesions demonstrated may form the basis of a clinical syndrome characterized by a pathological fetal position and subsequent delay in standing and walking The histological changes are found in the organs regulating the static functions

The syndrome is frequently associated with two distinct types of speech disturbance (1) those noted in persons with poor hearing and (2) audio mutism The latter are related to the functional disturbance of the cerebellum The peripheral changes explain the disturbances of speech based on decreased hearing Since Bender's demonstration of the connection between the lingula and the movements of the vocal cords it is evident that changes in the lingula have an important relationship to speech disorders

W M PATON M D

West R and Barlow R A The Neuromuscular Mechanism of Hearing *Arch Otolaryngol* 1929 ix 643

Observations resulting from numerous experiments performed by the authors indicate that there is a mechanism of the middle ear providing for a swing of the stapes constant in amplitude throughout the range of pitch and volume The experiments are described in detail and the conclusions summarized

The neuromuscular activity of the mechanism provided for maintaining a constant pressure in the vestibule results in a sensation of volume This is accomplished through the mediation of cerebral centers with which it is connected Pitch is dependent on the kinesthetic stimulation of regions of the cochlea The region stimulated depends on the speed of thrust of the stapes The speed of thrust depends directly on the frequency of vibration The length of thrust is kept constant by the vestibulomuscular control of the ossicular chain

In discussing the mechanism of the ossicular chain the authors point out that the tensor tympani and the stapedius muscles are so adjusted that they act as direct antagonists In the attempt to hear a faint tone the stapedius is contracted and the tensor tympani is relaxed the mobility of the drum being thereby increased When the tone is loud the opposite adjustment takes place

W M Lyon M D

Tilley H Earache of a Reflex or Referred Nature *Proc Roy Soc Med* Lond 1929 xxii 12 9

Earache of a reflex or referred nature may be due to a gumma of the pharyngeal wall of the eustachian tube diseased wisdom teeth a gumma of the larynx tonsillar infection or sphenoidal disease Therefore careful examination is essential to discover the cause

The factor governing the transference of pain from a visceral region to a body surface is the location of the ganglion cells of each afferent set of fibers in proximity in the same sensory ganglion Centripetal processes from both sets of cells pass together into the bulb In the region under discussion the reflex takes place between the facial and vagus nerves GEORGE R McAULIFF M D

Hansel F K Trigeminal Disturbances of Otitic Origin *Ann Otol Rhinol and Laryngol* 1929 xxxviii 335

Because of the intimate anastomosis between the trigeminal facial glossopharyngeal vagus and tympanic nerves there are several pathways for the transmission of disturbances from the middle ear and mastoid to the trigeminal areas That the facial nerve probably plays the most important part in this transmission is indicated by cases of pain referred to the second and third divisions of the trigeminal nerve as the result of chronic otitis media and chronic mastoiditis The author reports three such cases in which the pain was relieved by removal of the diseased process MANFORD R WALTZ M D

Bard L Spatial Focusing of Sensorial Labyrinthine Images Auditive and Gyrative (De la mise au point spatiale des image sensorielles labyrinthiques auditives et gyratives) *Arch internat de laryngol* 1929 xxxv 402

The spatial focusing of visual images by accommodation has long been recognized but previous to the author's investigations *no work was done on* the two other spatial senses audition and gyration BARD'S studies on audition in 1904 and on gyration in 1914 did not hold the attention of specialists and physiologists The faculty of separating one particular sound from other simultaneous sounds without being confused by differences of intensity as in choosing among several persons who are speaking at once the one it is desired to hear has been considered a psychic act beyond the aptitude of the peripheral organ The author holds that this choice like its visual analogue is an act of focusing the corresponding images by the exercise of an accommodation to the distance of the source of the sound which the ear itself and its nervous apparatus carries out automatically He states that there is an auditive as well as a visual presbyopia perhaps due to senile sclerosis of the tympanum and characterized by the impossibility of analyzing simultaneous sounds or choosing between a number of interlocutors speaking at the same time

Since this analysis of sounds is an act of accommodation of the anterior labyrinth its source must be in the intrinsic musculature of the ear The contraction of the muscle of the malleus is said to raise the tension of the tympanum and that of the muscle of the stapes to relax it the action being antagonistic The fact is manifest that the two muscles each exert on the chain of ossicles a distinct autonomous action They can combine their action but they cannot oppose one another

Many facts go to prove that the isolation of auditive images by bringing them to a separate focus is accomplished by a contraction of the muscle of the stapes Direct observation reveals that contraction of the muscle of the malleus creates a general tension of the tympanum and that contraction of the muscle of the stapes produces a differential tension with its predominance anterior The rôle of the general uniform tension has long been known but there remains to be determined the differential tension of the two superior quadrants which are absolutely separated by the longitudinal insertion of the handle of the malleus and thus constitute two vibrating membranes which are struck simultaneously by lateral sound waves but are struck successively by waves coming from in front which is the most favorable position for their reception

The relaxation of the muscle of the stapes adapts the tympanum to distant sounds which strike the two quadrants equally whereas a contraction of this muscle adapts the tympanum to near sounds By the degrees of contraction of the muscle the tympanum is regulated exactly to a given distance it brings into the foreground the sounds proceeding from that distance and effaces those proceeding from other distances The mechanism renders this focus impossible for sounds coming from the rear and renders it more efficacious for lateral sounds which are placed more and more forward

The function of the posterior labyrinth and particularly that of the semicircular canals has been *the subject of many complex theories* In reality the posterior labyrinth is only the organ of perception of passive movements of the head as the eye perceives light waves and the ear perceives waves of sound In this perception as in the preceding there is a corresponding special sensation of which the specificity as in the others is the sole cause of the existence of an autonomic sense

Regarding this third sense the author refers to his former writings Having established the autonomy and specificity of the sense of which the posterior labyrinth is the peripheral organ he terms it the

sense of gyration Gyrative images are sensory perceptions that appertain to it These images are composed of all possible movements of the head—rectilinear backward and forward and those of rotation Gyrating movements predominate in frequency If one is placed in a revolving seat with the eyes closed the forms of the trajectories to which one is subjected may be clearly analyzed by the perception of the gyrative images If the movement is complex composed of several simultaneous trajectories as in some of the riding devices in amusement parks in which the general movement around a longitudinal axis is complicated by multiple see saws or rotations in different planes the attention can be fixed at will on the one or the other of the movements by a focusing exactly comparable to that in accommodation to distance visual or auditory

The author posits for the sense of gyration the power of accommodation to a spatial basis corresponding to the same functional requirements as in the case of the other senses in which focusing is necessary to the isolation of the corresponding images For the solution of this problem he sought an accommodation to distance in the posterior labyrinth The hypothesis of the existence of muscles in the walls of the labyrinth as yet undiscovered by histologists or of hypothetical fibers added nothing to the solution of the problem Ideas of distance study of trajectories intrinsic accommodation of the labyrinth do not enter into the problem The problem rests solely upon an extrinsic accommodation brought about by the autonomic and reflex movements of the head provoked by the gyrations themselves These movements aim at bringing the planes of the semicircular canals into such a position as will assure the optimal perception of the gyration under consideration

The three semicircular canals cooperate in the analysis of gyrating movements but each has also its own domain Movements of rotation around the longitudinal axis of the body depend upon the horizontal canal They act in its plane or in the planes slightly inclined toward it at an angle of less than 45 degrees Beyond that the gyration escapes to pass into the domain of another semicircular canal The sensory image is clearest when the gyration is originally or has been brought by movements of the head perpendicular to the plane of the canal concerned That is the head places itself in the zone which constitutes the central field of perception in the canal A guinea pig in a revolving cage holds itself immobile but shows a lateral rotation of the head in a horizontal plane in reverse direction to the rotation experienced The direction changes with that of the rotation This is a reflex movement of functional orientation which places the semicircular canal in the position most favorable for the clear perception of the rotation in question

Close observation reveals a second reflex movement indifferent to the direction of the gyration or its rapidity which is in sympathy with the direction of its axis in space It tends to place the head in a position most favorable for perception of the forms of the trajectories If the animal is subjected to various gyrations in different planes the two orders of movement of the head will obey the same law in all modes of gyration The reflex movements bring into action a mechanism of automatic orientation identical with the mechanisms that bring an object into the field of vision by lateral movement of head and eye

The three semicircular canals reciprocally perpendicular to one another explain how the result may be obtained in extreme cases by movement of the head which need no exceed an angle of 45 degrees in either direction A position of the head that favors one gyration is unfavorable to all other The eyes by means of the lens utilize the law of refraction of luminous waves the ear by means of the vibrating membranes pick up sound waves The labyrinth analyzes the displacement of the head by utilizing the orientation in space of the different planes developed by the gyrations It brings about a separation of the images by movements of the head which impose an orientation corresponding to the semicircular canals

In sight and hearing there is an accommodation to distance whereas in the posterior labyrinth there is an accommodation to the orientation of the axes of the gyrations and of the planes of the semicircular canals in space The focusing and the isolation of sensory images are intended to make perception more perfect They intervene equally in the choice and the direction of the automatic reflexes that depend upon sensory excitation

FLORENCE A CARPENTER

Scott S Vertigo *J Laryngol & Otol* 1929 xliv 439

The author defines vertigo as the state of consciousness of a false sense of orientation of ourselves in relation to our environment It is usually aural in origin as in otitis media due to labyrinthine irritation or involvement or in otosclerosis which is more advanced on one side than the other Clinically the most common type of recurrent vertigo is that associated with inefficiency of the Eustachian tube mechanism It is evident that the cause is unilateral obstruction since bilateral inefficiency has been found to result in deafness without vertigo and unilateral inefficiency to result in vertigo without deafness

Nasal or postnasal catarrh accompanying vertigo without ear suppuration or accompanying Meniere's disease has been recorded The author believes that in unilateral otosclerosis the vertigo is due to faults on the unaffected side Another probable cause of vertigo is a reflex of the fifth and seventh nerves setting up a disturbance in the intrinsic muscle of the ear and thereby causing movements in the labyrinthine fluid as in the case of dead teeth Vertigo may be produced also by syphilis disseminated sclerosis syringobulbia and other disease conditions of the central nervous system

MANFORD R. WALTZ M D

NOSE AND SINUSES

Meeker L Tumors of the Nose and Throat Related to Developmental Defects *Laryngoscope* 1929 xxxix 3 9

The author points out the relation between the development of the embryo and the formation of tumors and cites cases illustrative of this relationship Heredity is a factor in several types of tumors The article contains a comprehensive bibliography a discussion of the author s theories and a review of the pertinent factors in the embryology of the head and neck

Maldevelopment results most frequently in persistent branchial clefts and aberrant glands Mixed tumors of the salivary glands consist of cartilage myxomatous tissue epithelium and bone of embryonal types Intralaryngeal branchial cysts have been reported by Watson and Imperatori Intranasal cysts due to abnormal development are found Chondromata of the nose and throat arise from developmental displacements of tissue Inflammation may also be a factor in the production of these neoplasms Lipomata are attributed to embryonal rests or a congenital predisposition of tissue

A rare case of maldevelopment of the olfactory bulb is reported There was total absence of the olfactory bulb tract and trigonum olfactorius

Chordomata are tumors derived from the notochord and may be cysts of solid growths The typical chordoma cell is large round and vacuolated and may contain a mucinous substance Melanotic tumors of the nasal cavities are on record

W M Paton M D

Kemler J I Ozæna Report of Cases *Arch Otolaryngol* 1929 x 61

The theories as to the cause of ozæna are reviewed and discussed As yet no definite cause has been discovered The treatment is variable and as a rule unsatisfactory

Narrowing of the nasal chambers promises the best results This is accomplished most easily by the implantation of ivory The author reports cases so treated The article has an extensive bibliography

W M Paton M D

MOUTH

Meyer H W A Case of Cancer within the Buccal Cavity *Surg Clin N Am* 1929 ix 677

The author reports a case of squamous cell carcinoma involving all of the mucous membrane of the left cheek the angle of the mouth and the alveolar process of the left superior maxilla Operation was performed under colonic anæsthesia Wide resection of the cheek and inferior maxilla and deep cauterization of the area were followed by a plastic procedure and the application of a skin graft to cover the defect Three weeks later the cervical lymphatic structures on the side of the lesion were completely removed

Colonic anæsthesia being relatively safe permits thorough surgical procedures without undue haste Routine hypodermoclysis during the operation helps to prevent shock and collapse Feeding is facilitated by the introduction of an Einhorn tube into the stomach during the operation The use of the gas cautery makes possible thorough cauterization of the cancer site To prevent recurrence complete resection of the lymphatic drainage field is necessary

Manford I Waltz M D

PHARYNX

Newton A Pulsion Diverticulum of the Pharynx *J College Surg Australasia* 1929 ii 3

A pharyngeal pulsion diverticulum is a pouch which emerges between the oblique and transverse fibers of the cricopharyngeus muscle While its cause is unknown a congenital defect in the wall of the pharynx or incoordination between the propulsive and sphincteric mechanism may be a factor Noisy deglutition is an early sign noticed by the patient Later there is an uncomfortable pressure in the neck and in time a gradual loss of weight results

At operation the cavity is emptied with the œsophagoscope and packed with gauze An incision is then made along the anterior border of the sternomastoid muscle and the tissues are dissected down to the pouch If the pouch is small it is invaginated into the œsophagus but if it is large it must be resected The tunica fibrosa is then divided and the mucous membrane divided with a cautery The stump is invaginated into the pharynx and the tunica fibrosa sewed by a pursestring suture over the weak spot The lower part of the wound is then packed with gauze well impregnated with paraffin paste so that early adhesions may form to shut off the mediastinum

Five cases were treated successfully in this way

George R McAuliff M D

Greenwald H M and Messeloff C R Retropharyngeal Abscess in Infants and Children *Am J M Sc* 1929 clxxvii 767

Following a brief anatomical description of the retropharyngeal lymph nodes the authors review fifty five cases of retropharyngeal abscess

Retropharyngeal abscess is a disease of childhood It is most frequent between the ages of two months and four years and during the cold months of the year when respiratory infections are prevalent A presumptive diagnosis should be confirmed by a digital examination of the pharynx All manipulation should be done with great care Fever restlessness and enlargement of the cervical glands are constant findings

In the authors series of cases the mortality was 7 3 per cent The common complications are (1) spontaneous rupture of the abscess causing asphyxia (2) burrowing of the pus inward and its appearance in the posterior triangle of the neck (3) extension of

the abscess downward along the prevertebral fascia into the lower part of the neck and (4) extension of the pus behind the œsophagus into the posterior mediastinum Erosion of one of the main blood vessels is relatively infrequent

Operative interference in the stage of non suppurative lymphadenitis is associated with the danger of spreading the infection As soon as fluctuation is definitely established the mass should be excised

W W Paton M D

NECK

McWhorter J E Malignant Epithelial Tumors of the Neck of Unknown Origin *Ann Surg* 1929 xc 1

McWhorter reports observations upon twenty four cases of malignant epithelial tumors of the neck of unknown origin which were seen at Bellevue Hospital New York and compares his findings with those reported by McKenty in 1914 and by Hudson in 1926 He states that these tumors are most often mistaken for Hodgkin s disease or lymphosarcoma and that an accurate diagnosis can be made only by microscopic examination Eighteen of the patients whose cases are reviewed were males The average age was forty seven years The condition was bilateral in six cases and unilateral on the left side in thirteen In the majority of the cases the tumor occupied an area behind and below the angle of the jaw There were no symptoms until a mass became palpable or involvement of neighboring structures occurred The neoplasm was smooth or lobulated firm non tender and of even consistency It was frequently attached to deeper structures but rarely to the skin

In the author s opinion the treatment depends upon the size and mobility of the tumor Surgery is indicated for slowly growing mobile tumors and radium for the others A cure is doubtful chiefly because the patient does not seek treatment until the condition is in the advanced stages

John H Woolsey M D

Solland A Costolow W E and Meland O N A Critical Review of the Results of Irradiation Therapy in Exophthalmic Goiter and Toxic Goiter (Kritische Uebersicht ueber die Erfolge der Strahlentherapie beim Basedow Kropf und bei der toxischen Struma) *Strahlentherapie* 1929 xxxii 131

The authors call attention to the fact that as the cause of exophthalmic goiter and toxic goiter has not been definitely established, a strictly specific curative treatment is not known However as the surgeon is able to obtain a cure by partial extirpation of the hyperfunctioning gland it may be assumed that irradiation will give the same results since it diminishes the function of the secreting cells within the gland tissue

On the basis of this assumption the authors made an extensive investigation of the result of irradiation therapy sending a questionnaire to 300 leading radiologists in America and other countries The questions referred to the number of cases treated the treatment of irradiated patients by surgeons the form of irradiation treatment roentgen or radium the selection of the patients the technique employed the results the claim that irradiation increases the danger of a possible later operation the expense of irradiation as compared with surgery and the mortality rate

From the replies the following conclusions are drawn

In toxic goiter radiotherapy is a recognized and valuable method Of 3 125 patients treated by irradiation 73 per cent were cured 16 per cent were benefited and only 11 per cent were not benefited The results are therefore comparable to those of surgical intervention Failures are due to lack of cooperation on the part of the patient lack of radiosensitivity of the goiter and improper selection of the cases Irradiation is preferable to surgical treatment because it is less expensive and has no mortality Improvement in the results is to be expected from improvement in the technique

Silberberg (Z)

Romanis W H C Graves Disease and Thyroidectomy *Lancet* 1929 ccxvii 113

The author reports on 500 cases in which thyroidectomy was done for Graves disease (exclusive of toxic adenoma) with a mortality of per cent He believes that the best operation in this condition is one in which large portions of the thyroid gland are removed and that the danger of myxœdema is slight To prevent recurrence the leaving of isolated portion of thyroid tissue is to be avoided In the author s cases anæsthesia is usually induced with a minimal amount of ether given by the open method but in very severe cases local anæsthesia is employed In preparation for the operation the patient is put to bed on a full diet and given 10 drops of Lugol s solution two or three times a day This treatment almost invariably results in considerable improvement in the general condition lasting about two or three weeks during which time the operation is done

Contra indications to operation are very few The most important is marked cardiac weakness As a rule the worse the general condition before the operation the more marked the improvement after the operation The patient is usually able to lead a normal life after six months The improvement in the subjective symptoms is generally more marked than that in the physical signs At the end of six months the pulse may still be a little quick and the exophthalmos may show less improvement than the other evidences of the disease but the physical signs tend gradually to vanish in the course of the first year The two types of cases in which the results of operation are disappointing are those of children under fifteen years of age and those in which there is no enlargement of the thyroid gland

Maurice Meyers M D

Johnson W O Fibrosarcoma of the Thyroid *Ann Surg* 1929 xc 29

Johnson reports two cases in which after an adenoma of the thyroid had been present for eighteen and twenty seven years respectively there developed in the thyroid a malignant tumor characterized by rapid growth and recurrence failure to respond to irradiation and cells with eccentric nuclei and a tendency toward elongation

On the basis of these cases he urges the removal of thyroid adenomata as a measure to prevent the development of thyroid sarcoma

JOHN H WOOLSEY M D

Wellbrock W L A The Occurrence of Accessory Parathyroid Glands *J Am M Ass* 1929 xcii 1821

During a period of five months the author had the opportunity to examine 1 056 thyroid glands immediately after their removal at the Mayo Clinic He was stimulated in the search for parathyroid glands in these cases by the recent articles of Terry and Millzner and he found a surprisingly large number

Supernumerary parathyroid glands are not uncommon In the cases reviewed the parathyroid glands were situated on the anterior surface the isthmus or the lateral surface or embedded in the thyroid tissue just within the edge of the thyroid gland

One or more parathyroid glands were found in 7 76 per cent of the 1 056 thyroid glands examined They were all checked by microscopic examination

The parathyroid glands are finely granular soft yellowish brown lenticular spheroidal or pear shaped structures from 2 to 10 mm in diameter They are often confused with accessory thyroid glands nodes hæmolymph glands and lobules of fat This is the chief reason for the failure of transplants

Parathyroid glands were found in equal numbers on exophthalmic adenomatous and colloid goiters The largest gland on which a parathyroid gland was found was adenomatous and weighed 275 gm The smallest was a hypertrophic parenchymatous gland weighing 8 gm In 2 cases 3 parathyroid glands were found and in 1 of these the 3 glands were in a cluster In 3 cases 2 glands were found and in 2 cases 1 was found on each lobe of the thyroid gland

In only 1 case was there mild transitory tetany following the thyroidectomy

Brown R G Some Considerations in the Diagnosis and Operative Technique of Cancer of the Larynx *J College Surg Australasia* 1929 ii 93

The author states that in all cases of chronic hoarseness an early laryngeal examination should be made for cancer If cancer is found it is necessary to determine the extent of the involvement before operative treatment is undertaken Total laryngectomy should be preceded by tracheostomy and the elimination of oral and nasal sepsis The author operates under local anæsthesia combined with allonal and morphine He uses atropine after the operation to diminish the flow of saliva and hasten healing of the wound He has found that eventually his patients develop lip or œsophageal speech

GEORGE R MCALLIFF M D

Berlin D D and Lahey F H Dissections of the Recurrent and Superior Laryngeal Nerves The Relation of the Recurrent to the Inferior Thyroid Artery and the Relation of the Superior to Abductor Paralysis *Surg Gynec & Obst* 1929 xlix 102

In order to determine the differences in the relationship between the recurrent laryngeal nerve and the inferior thyroid artery on the right and left sides and whether some of the fibers of the superior laryngeal nerve other than the branch to the cricothyroid muscle are motor in character the authors made dissections on twenty two cadavers

In eighteen of twenty two dissections on the right side the nerve was found anterior to the artery On the left side the artery was demonstrated anterior to the nerve in nineteen dissections and the nerve anterior to the artery in three The recurrent nerves were found to run in the sulcus between the trachea and œsophagus with the left more often appearing a little deeper than the right The interarytenoideus was found to receive its main innervation from the internal laryngeal nerve and occasionally an additional twig from the recurrent laryngeal nerve

JOHN H GARLOCK M D

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Maurice Meyers M D

case Guleke was able to overcome the respiratory difficulty by puncturing the cyst

In the discussion of this paper SCHOENBAUER (Vienna) reported on experience at the Eiselsberg clinic during the period from 1919 to 1926 He stated that in opening the posterior fossa the surgeons at that clinic proceed in the same way as Guleke opening the skull on both sides as far as the protuberantia occipitalis and often resecting the epistropheus as well as the atlas On the basis of the results of the decompression operation he divided the cases into the following three groups

Group 1 cases of tumors of the posterior cranial fossa In this group there were thirteen cases—seven of cerebellar tumor and six of acusticus tumor Five of the patients died immediately after the operation The others survived for from one to two years Only one received any marked benefit from the operation

Group 2 cases in which the posterior fossa was opened under a mistaken diagnosis In this group there were eight cases Six of the patients died immediately after the operation and two survived for three months and three years respectively One of the latter died following ventriculography

Group 3 cases in which a decompression operation was performed in the absence of a tumor In this group there were eighteen cases Seven of the patients could be traced subsequently Six of them were benefited by the operation for periods ranging from two to eight years

Schoenbauer emphasized that a decompression operation on the posterior fossa in the presence of a tumor of the cerebrum is much more dangerous than a decompression operation over the cerebrum in the presence of a tumor of the cerebellum

In conclusion he reported a case in which he attempted a decompression operation in the presence of a respiratory disturbance following the injection of lipiodol The operation was followed by improvement but the patient died several hours later

ANSCHUETZ (Kiel) substantiated the experience of Schoenbauer as regards the greater danger of trephination in the posterior fossa in the presence of a tumor of the cerebrum He stated that he also always performs a bilateral operation on the posterior fossa and resects the atlas He is an ardent advocate of palliative operations in cases of brain tumor and those with pressure symptoms from other causes He reported a case with a lumbar pressure of 500 in which there was only an œdema of the brain and a decompression operation performed at the right time would have been of great benefit He stated that in cases of rapidly growing malignant tumors nothing is to be attained by the decompression operation but in 90 per cent of cases of benign growths vision is preserved and in 30 per cent of those in which vision was damaged before the operation it is improved whereas without the intervention the patient would have become blind

In concluding the discussion Guleke stated that he agrees with Schoenbauer regarding the prognosis of decompression operations on the posterior surface of the skull He cited also the favorable effect on the pressure of the intravenous injection of hypertonic salt solution STETTINER (Z)

SPINAL CORD AND ITS COVERINGS

Craig W McK The Use and Abuse of Iodized Oil in the Diagnosis of Lesions of the Spinal Cord
Surg Gynec & Obst 1929 xlix 17

The injection of iodized oil into the subarachnoid space is of invaluable aid to the neurologist and neurological surgeon in the diagnosis of compression of the spinal cord but also has its abuse This procedure should always be employed in conjunction with a complete examination and the results obtained with it should never be ascribed more than relative importance in the establishment of the diagnosis In frank inflammatory lesions it is contraindicated on account of its irritative effect on the meninges

By means of iodized oil the presence of a tumor of the spinal cord can sometimes be detected earlier The fact that there is a response to jugular pressure does not preclude its use

The outstanding indication for the injection of lipiodol is the confirmation of the presence of a suspected tumor of the spinal cord Its chief abuse is its employment in cases in which a complete examination would have established the diagnosis

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Hall A J Three Cases of Spontaneous Subarachnoid Hæmorrhage *Brit M J* 1929 1 1025

In reporting three cases of spontaneous subarachnoid hæmorrhage the author calls attention especially to the occurrence of Korsakow's syndrome in the after course of two of them In all of the cases the diagnosis was based upon the characteristic signs of a sudden increase in intracranial tension and the presence of blood diffused in the cerebrospinal fluid

Hall states that whenever there is extensive and advanced general arterial disease there is no reason why a rupture should not occur in a meningeal vessel as well as in an intracerebral vessel There is danger of meningeal bleeding also in general diseases with a tendency toward hemorrhage such as purpura hæmophilia and leukæmia in cases of embolic aneurism due to septic infection and in cases of congenital vascular defects such as aneurism and nævi

The autopsy findings in the brain in one of the author's cases are reported in detail

ERIC OLDBERG M D

Drennan A M An Impacted Cyst in the Third Ventricle of the Brain *Brit M J* 1929 1 4

Drennan reports the cases of two young persons who died suddenly a few hours after the onset of very severe headache Autopsy showed that death was due to acute hydrocephalus and cerebral œdema caused by a relatively small cyst plugging the outlet from the third ventricle LEO M DAVIDOFF M D

Guleke Decompression in Cases of Tumor of the Posterior Cranial Fossa (Ueber die Druckentlastung bei Geschwuelsten der hinteren Schaedelgrube) *53 Tag d deutsch Ges f Chir Berlin* 1929

In operative interference on the posterior surface of the cranium unfortunate occurrences are frequent and the mortality is very high The high mortality is to be ascribed in part to the frequent severe hemorrhages but chiefly to the disturbances of respiration resulting from procedures directed toward the medulla oblongata Cushing lost half of his patients from such respiratory disturbances The pressure which the tumor exerts on the medulla the location and size of the new growth the associated hydrocephalus and the congestion of the vessels are all important factors Any pressure variation may be fatal Cases have been known in which fatal respiratory paralysis was brought about merely by changing the position of the head This may occur after opening of the dura during the operation or after completion of the operation However the chief rôle is played by the pressure exerted by the tumor itself on the medulla Accordingly a decompression operation should be done even if the tumor cannot be removed and even though in some cases it may result in no improvement or cause death

The tumors which come under consideration in this regard arise from the cerebellum itself or from the pons from the medulla or pontine angle or from the fourth ventricle The decompression is less dangerous when the tumor or cyst as the case may be is superficially located than when it arises from the deeper structures and exerts direct pressure on the medulla The same may be said of tumors arising from the fourth ventricle

The dangers from new growths which take their origin from the pontine angle or the medulla itself are of a different character In general the tentorium and clivus are parallel in the upright position whereas in the posture assumed at operation a wedge shape is produced The tumor is pushed downward and a condition of stasis results In cases of acusticus tumor there is pressure from the lateral direction in addition When the dura is opened in the decompression operation protrusion of the cerebellum and tumor occurs exerting a drag upon the medulla oblongata Therefore in the presence of a solid tumor the operation should begin with opening of the dura on the uninvolved side

In the presence of a tumor situated in a median position and in cases of large acusticus tumor even though it is unilateral the operation should be bilateral As it is usually impossible to determine positively before operation whether the tumor is large or small it is better to operate bilaterally in all these cases Only in the presence of a tumor of the cerebral hemisphere which is superficial and known certainly to be unilateral may the operation be limited to one side

A further operative danger is the lever effect on the medulla oblongata To prevent this Cushing resects the atlas before opening the dura If such an effect is then recognized after the opening of the dura it is easily overcome by an incision parallel with the sinus If the resection is delayed until after the dura has been opened it will usually be too late Other advantages of resection of the atlas are better exposure and isolation of the tumor

These requirements seem radical but are most necessary if the operation is to be successful If respiratory disturbances occur in spite of these precautionary measures it is a mistake to discontinue the operation since nothing will be gained thereby the patient will surely die An attempt should be made to terminate the operation quickly by puncture of the cyst or removal of the tumor In one

5 were cured whereas of 26 with gland involvement 3 (11 5 per cent) were cured In some of the cured cases operation was performed immediately after the discovery of the tumor but in others was not done until more than a year later

Of the patients with lactation tuberculosis 9 were followed Of these 3 were well from nine to ten years after the operation FRANK B BERRY M D

Pfahler G E and Widmann B I Statistical Analysis of the Radiation Treatment of Cancer of the Breast on the Basis of the Saturation Technique 412 Cases (1920–1928) *Am J Roentgenol* 1929 xxi 546

The authors have found that the end results in cases of cancer of the breast are definitely improved by irradiation Their records show that in recurrent cases with glandular and mediastinal metastases the period of survival averaged forty five months when the operation was supplemented by irradiation and only twenty seven months when surgical treatment alone was given In inoperable primary cases the average period of survival was fifty four months after irradiation and only thirty four months when no treatment was given According to the statistics of ten clinics in which both surgery and irradiation were used the incidence of three year cures was 58 3 per cent and that of five year cures 43 2 per cent In thirty two clinics in which only surgical treatment was given a three year cure was obtained in only 38 6 per cent of the cases and a five year cure in only 28 8 per cent

The saturation method of irradiation is of value in late operable cases in which it gives a three year cure in 83 per cent whereas previous methods resulted in a three year cure in only 68 per cent

Irradiation is recommended for all cases of carcinoma of the breast with or without surgery according to the indications

Of 590 patients with carcinoma of the breast of all types—early and late operable and inoperable—who were treated by the authors in the period from 1 00 to 1920 27 per cent were free from demonstrable disease at the end of five years Of 302 who were treated during the period from 1920 to 1925 36 7 per cent were evidently cured at the end of five years In the latter period the authors used in addition to the saturation method the high voltage X rays which they had not employed previously

The authors advise a routine roentgen examination of the chest spine and pelvic bones in all cases of cancer of the breast before treatment is begun since not infrequently a metastasis will be found when it is not suspected EMIL C POSTSHUK M D

TRACHEA LUNGS AND PLEURA

Ochsner A The Surgical Treatment of Pulmonary Tuberculosis *New Orleans M & S J* 1929 lxxxi 876

The surgical treatment of pulmonary tuberculosis consists in an attempt to immobilize the affected lung producing as near as possible physiological rest without interfering with the nutrition of the lung

The operative procedures employed at the present time may be divided into two main groups the conservative or non destructive and the radical or destructive There has been considerable controversy among experimental workers concerning the blood supply of the lung during artificial collapse However all observers have worked with the pulmonary circulation and have shown that there is a decrease in the pulmonary circulation from which a relatively small portion of the nourishment of the lung is derived The pulmonary arteries contain blood which is de-oxygenated and imposes a strain on the lung The function of the lung is increased The blood supply from the bronchial arteries however is probably not materially decreased as a result of the pulmonary collapse Following artificial pneumothorax the function of the lung and the physiological demand upon it for oxygenation of blood are decreased whereas the general circulation from which the lungs receive their nutrition is not altered The beneficial effects produced by artificial pneumothorax are therefore evident

The indications for artificial pneumothorax are (1) unilateral or chiefly unilateral pulmonary tuberculosis () severe pulmonary hæmorrhage (3) spontaneous pneumothorax after complete absorption of the air and (4) a pleural exudate and tuberculous empyema The contra indications are (1) an extensive process which is active in both lungs (2) extensive chronic non tuberculous processes in both lungs such as chronic bronchitis bronchiectasis emphysema asthma and pleurisy (3) severe intestinal tuberculosis (4) severe diabetes mellitus and (5) severe cardiorenal disease

When it is possible the selective type of collapse is to be preferred to the more complete type The complications of artificial pneumothorax therapy are pleural shock perforation of the lung and pleurisy The majority of cases of so called pleural shock are in reality cases of air embolism

Operations on the phrenic nerve are conservative procedures The nerve may be either temporarily blocked by crushing (phrenemphraxis) or by freezing or may be permanently removed by avulsion (phrenico exeresis) The former procedure is indicated in the early cases of tuberculosis in which function of the lung is to be restored later The author prefers the transverse incision in performing a phrenico exeresis because it leaves only an insignificant scar

Thoracoplasty is to be employed in cases of pulmonary tuberculosis in which there is extensive involvement and the process is primarily of the fibrotic type It is primarily indicated in cases with unilateral processes but is occasionally permissible even when there is evidence of activity on the contralateral side especially if the patient is suffering primarily from a secondary infection of the cavities on the markedly involved side The technique pre

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Cutler M Transillumination as an Aid in the Diagnosis of Breast Lesions with Special Reference to Its Value in Cases of Bleeding Nipple *Surg Gynec & Obst* 1929 xlviii 721

In the use of transillumination as an aid to the diagnosis of breast lesions the examination is made in a totally dark room A Cameron lamp is placed against the under surface of the breast and gradually moved about The normal breast is examined first Fat is more translucent than fibrous tissue In diffuse chronic mastitis there is a general haziness or if the breast is of the lumpy type scattered areas are noted Cysts filled with clear fluid are translucent Solid tumors cast a definite shadow depending upon their size and to some extent their location Hæmatomata and blood cysts are extremely dense The edges of hæmatomata are irregular and extend into the surrounding breast tissue beyond the palpable edges of the tumor In acute mastitis there is a diffuse opacity The lactating breast is quite opaque A galactocele appears as an opaque sharply circumscribed area In cases of papilloma with bleeding nipple small circumscribed shadows are seen their number depending upon whether one or more tumors are present Papillomata can be demonstrated by transillumination when they cannot be palpated

The author recommends transillumination as a simple and valuable aid in the diagnosis of breast lesions FRANK B BERRY M D

Kilgore A R and Bloodgood J C Tumors and Tumor Like Lesions of the Breast in Association with Pregnancy and Lactation *Ann Surg* 1929 x iii 2079

The authors discuss the treatment of various breast conditions occurring during pregnancy and lactation They state that in cases of caked breast which is most frequent in early lactation non interference should be the rule The nipples should be kept clean and the breast should be nursed or emptied with the breast pump

For the simple acute abscess incision is indicated In cases of chronic abscess excision beyond the inflammatory zone through normal lactating tissue should be performed When multiple acute or chronic abscesses are uncontrolled by multiple incisions the breast should be amputated

In cases of simple adenoma or galactocele the tumor should be completely excised and the breast carefully closed in layers

In chronic lactation mastitis and tuberculosis it is unnecessary to perform an amputation or remove the infiltrated tissue completely

In cases of malignancy radical operation is indicated

Frozen sections should always be made at the time of the operation Before the operation the breast should be completely emptied The patients are good operative risks Miscarriage is unlikely Promptness is most important in dealing with breast lesions during pregnancy or lactation

In the diagnosis of breast lesions careful differentiation is essential Chronic abscess with cyst and chronic lactation mastitis may closely resemble cancer This is true particularly of the latter which may be associated with great induration retraction of the nipple dimpling of the skin and axillary gland involvement Differentiation can be made by a pathologist at the time of operation from frozen section Tuberculosis in its earlier stages before abscess and caseation have taken place closely resembles lactation mastitis Simple adenoma may be confused with malignancy because of the active condition of the breast during lactation but is almost always encapsulated Papillomatous cysts rarely occur during pregnancy and lactation but are readily diagnosed from the discharge of blood from the nipple They should be widely excised and the base carefully examined for carcinomatous change In its earliest stages cancer has no characteristic clinical picture and may be indistinguishable clinically from a benign lesion If caked breast neither resolves nor forms an abscess within ten days it should be promptly explored Transillumination is a most helpful diagnostic aid

Of 1 521 cases of lesions of the breast on record in the Johns Hopkins Hospital Baltimore 96 (6 3 per cent) were first observed by the patient in connection with pregnancy or lactation This series does not include chronic cystic or acute inflammatory mastitis Of the 96 lesions 49 were cancers 13 galactoceles 9 tuberculosis 9 adenomata 2 intracystic papillomata 10 chronic lactation mastitis and 4 lipomata dermoids etc Cancer constituted 51 per cent of all lactation tumors Of a non lactation series of lesions 73 7 per cent were cancers Of the cancers occurring during lactation more than 90 per cent were in women over thirty years of age whereas nearly 70 per cent of the benign lesions occurring during lactation were in women under thirty years of age

The stage of pregnancy or lactation at which the tumor is first observed bears no relation to the type of the tumor Exploration should not be long delayed on the assumption that the lump is inflammatory Of the 49 cases of lactation cancers cited the end results in 46 were ascertained Eight of the patients were well four and a half eight eight ten thirteen eighteen twenty and twenty-one years respectively after operation Of 7 without axillary gland involvement,

5 were cured whereas of 26 with gland involvement 3 (11 5 per cent) were cured In some of the cured cases operation was performed immediately after the discovery of the tumor but in others was not done until more than a year later

Of the patients with lactation tuberculosis 9 were followed Of these 3 were well from nine to ten years after the operation FRANK B BERRY M D

Pfahler G E and Widmann B P Statistical Analysis of the Radiation Treatment of Cancer of the Breast on the Basis of the Saturation Technique 412 Cases (1920–1928) *Am J Roentgenol* 1929 xu 546

The authors have found that the end results in cases of cancer of the breast are definitely improved by irradiation Their records show that in recurrent cases with glandular and mediastinal metastases the period of survival averaged forty five months when the operation was supplemented by irradiation and only twenty seven months when surgical treatment alone was given In inoperable primary cases the average period of survival was fifty four months after irradiation and only thirty four months when no treatment was given According to the statistics of ten clinics in which both surgery and irradiation were used the incidence of three year cures was 58 3 per cent and that of five year cures 43 2 per cent In thirty two clinics in which only surgical treatment was given a three year cure was obtained in only 38 6 per cent of the cases and a five year cure in only 28 8 per cent

The saturation method of irradiation is of value in late operable cases in which it gives a three year cure in 83 per cent whereas previous methods resulted in a three year cure in only 68 per cent

Irradiation is recommended for all cases of carcinoma of the breast with or without surgery according to the indications

Of 590 patients with carcinoma of the breast of all types—early and late operable and inoperable—who were treated by the authors in the period from 1900 to 1920 27 per cent were free from demonstrable disease at the end of five years Of 302 who were treated during the period from 1920 to 1925 17 per cent were evidently cured at the end of five years In the latter period the authors used in addition to the saturation method the high voltage rays which they had not employed previously The authors advise a routine roentgen examination of the chest spine and pelvic bones in all cases of cancer of the breast before treatment is begun since not infrequently a metastasis will be found when it is not suspected EMIL C POSTNER M D

TRACHEA LUNGS AND PLEURA

Eichsner A The Surgical Treatment of Pulmonary Tuberculosis *New Orleans M & S J* 1929 lxxvi 876

The surgical treatment of pulmonary tuberculosis consists in an attempt to immobilize the affected lung producing as near as possible physiological rest without interfering with the nutrition of the lung

The operative procedures employed at the present time may be divided into two main groups the conservative or non destructive and the radical or destructive There has been considerable controversy among experimental workers concerning the blood supply of the lung during artificial collapse However all observers have worked with the pulmonary circulation and have shown that there is a decrease in the pulmonary circulation from which a relatively small portion of the nourishment of the lung is derived The pulmonary arteries contain blood which is de oxygenated and imposes a strain on the lung The function of the lung is increased The blood supply from the bronchial arteries however is probably not materially decreased as a result of the pulmonary collapse Following artificial pneumothorax the function of the lung and the physiological demand upon it for oxygenation of blood are decreased whereas the general circulation from which the lungs receive their nutrition is not altered The beneficial effects produced by artificial pneumothorax are therefore evident

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ferred by the author is that of Sauerbruch which consists of extrapleural paravertebral resection of the ribs Occasionally even following an extrapleural collapse by thoracoplasty expectoration will continue because of incomplete collapse of rigid cavities The direct cause of the secretion is secondary infection In this type of case the author has obtained good results from the repeated introduction of iodized oil into the cavities

Harkavy J The Pathogenesis of Aspiratory Abscess of the Lung Its Possible Relation to Abscess of the Lung Following Tonsillectomy *Arch Int Med* 1929 xliii 767

The author's report regarding the pathogenesis of aspiratory abscess of the lung is summarized as follows

1 A consideration of the pathogenesis of pulmonary suppuration following tonsillectomy has been presented from the points of view of the embolic and aspiratory hypotheses

2 The results of experimentation on animals as well as clinical experience indicate that while embolic abscesses may occur they are exceptional The greater amount of evidence is in favor of aspiration as the mode of production of lung suppuration following operations on the upper respiratory tract

3 Three of twenty seven dogs that received through the bronchoscope 0 5 c cm of mixed cultures of bacteria recovered from the sputum of patients with abscesses of the lungs following tonsillectomy developed abscesses with cavities a fourth developed pulmonary suppuration and a fifth presented evidence of a healed suppurative process in the lower lobe of the left lung

4 Suppuration following tonsillectomy characterized by Aschner as bronchiectatic extrabronchial abscess and suppurative pneumonitis have been found by him in specimens of the lungs studied from two to five years after tonsillectomy While the last two forms have been obtained by the author experimentally, bronchiectatic abscess could not be produced by his methods in dogs The failure may have been due to the rapid tendency of abscesses produced experimentally in dogs to go on to healing Encapsulation of the abscess was observed as early as the eleventh day

5 The development of pulmonary abscesses in dogs is first manifested by the presence of pneumonia as demonstrable by the roentgen rays This is comparable to the condition seen in man in the earliest stages following tonsillectomy Subsequent stages of this condition as studied histologically in dogs are characterized by the occurrence of necrosis within the pneumonic area and cavity formation This may persist or go on to healing

6 If the results obtained in dogs indicate the conditions occurring in man it is suggested that following aspiration of infectious material from the upper respiratory tract the sequence of events is as follows (1) pneumonitis (2) necrosis and cavity formation and (3) healing or persistence of the primary abscess with the development of secondary bronchiectasis EMIL C ROBITSHEK M D

Ashbury H E Recurrent Massive Collapse of the Lung Due to a Benign Intrabronchial Tumor *Am J Roentgenol* 1929 xxi 452

After a short review of the literature on massive collapse of the lung with stress particularly upon the markedly increased negative pressure in the pleural cavities the author reports a case in which massive pulmonary collapse was produced by an intrabronchial benign tumor

The patient was a man forty years of age who experienced a sudden attack of coughing which he believed was caused by an inhaled nut There was slight hæmoptysis The condition was diagnosed as influenza It was characterized by fever cough and dyspnœa the latter being the most prominent feature A month later after three weeks in bed the patient returned to work in good health Five weeks later while running he again had an attack of coughing which was followed by increasing dyspnœa A diagnosis of pulmonary tuberculosis was then made although the sputum failed to reveal tubercle bacilli Roentgen examination showed an opacity of the lower half of the chest on the left side and some degree of cardiac displacement toward the left Three weeks later the roentgenogram was normal and the patient returned to work He then experienced no further difficulty for a month At the end of that time the dyspnœa and cough recurred and were accompanied by cyanosis The patient was then seen for the first time by the author

Stereoscopic roentgenograms showed the heart and mediastinal structures in the left chest The upper lobe of the left lung was atelectatic but the lower lobe was completely collapsed The left diaphragm was not demonstrated The right lung was over distended with air and the right diaphragm moved freely The temperature was 99 2 degrees F and the pulse 72 The dyspnœa was severe and associated with cyanosis of the ears and fingers The left side of the chest was retracted Above the third rib it was resonant but below that rib it was dull The heart was markedly displaced toward the left, the apex being in the third interspace in the mid auxillary line When a needle was inserted into the left pleura and attached to a mercury manometer the manometric reading ranged between −16 and −20 mm Hg which is equivalent to −240 and −270 mm of water

Following the induction of a partial pneumothorax with 600 c cm of filtered air the pressure dropped to between −80 and −100 mm of water the cyanosis and dyspnœa ceased completely and the mediastinum and heart again shifted to the right Gradual recurrence of the symptoms however necessitated re injection During the following week while coughing the patient expectorated bright red blood and a cylindrical tumor mass which measured 4 by 1 6 by 1 1 cm This was found to be a cellular fibroma Complete relief of the symptoms resulted

Bronchoscopic examination by Jackson revealed the stump of the tumor in the left main bronchus about 3 cm beyond the carina It included about one third of the lumen of the bronchus Shortly thereafter the stump was fulgurated through the bronchoscope The patient was then free from symptoms for some time but ultimately again presented symptoms of massive collapse which lasted for five months during which time he received three air injections There was entire collapse of the left lung Bronchoscopy revealed complete obstruction of a left bronchus by the tumor Following repeated bronchoscopies the lung gradually expanded Deep roentgen ray therapy was then instituted After a series of such treatment roentgenograms showed complete expansion of the left lung and the findings of physical examination were normal

The author considers the case remarkable because of the absence of infection when the bronchus had been occluded for relative long periods of time In conclusion he states that the characteristic roentgen physical signs are the result of changes in the intrapleural *negative pressure The injection of air into* the pleural cavity is of distinct benefit in cases with marked symptoms The displacement of the mediastinum and the heart toward the affected side is pathognomonic of the condition

ALTON OCHSNER M D

Locke E A **Complete Pneumothorax of Unknown Cause (Spontaneous or Idiopathic So Called)** *Med Clin N Am* 1929 xiii 75

Four cases of complete pneumothorax of unknown origin are reported Uniform recovery resulted as in most cases of this type Neither tuberculosis nor other pulmonary disease could be demonstrated at any time In three of the four cases the attack occurred when the patient was at rest In the great majority of cases pneumothorax is the result of trauma or some disease which causes the lung to rupture The most common disease causing pneumothorax is tuberculosis but in this condition the pneumothorax is usually only partial as pleural adhesions are almost always present to prevent complete retraction of the ruptured lung

When there is complete collapse the lung lies in the gutter of the spine as a small ropy mass with no resemblance to normal lung In all cases the heart and to some degree also the other mediastinal structures are displaced toward the opposite side The symptoms are almost entirely dependent on the degree to which respiration is embarrassed Very often pneumothorax may exist without pronounced symptoms

In the typical attack the patient is seized with very severe pain in the chest intense dyspnœa and a feeling of suffocation In from twelve to twenty four hours the character of the pain changes to a dull pressure Cough or deep respiration causes a sharp lancinating pain on the affected side During the acute stage the patient is found sitting up in bed breathing rapidly with evident distress Cyanosis is apt to be marked The involved side is usually fuller the intercostal spaces being less marked and *the ribs immobile during respiration There is hyper* resonance (dull tympany) The boundaries of the affected side are enormously extended and do not change with respiration Heart displacement is readily demonstrated especially if it is toward the right Breath sounds are most frequently absent or extremely distant but when present they are amphoric The coin test is nearly a constant sign In a moderate percentage of cases a metallic tinkle is heard

The condition is rarely fatal the vast majority of cases running a favorable course without severe symptoms after the first day or two Complete lung expansion takes place in from two weeks to several months Recurrence has been recorded many times It occurred in two of the author s cases One of these cases was unusual in that eighteen attacks occurred in the course of seven years and the pneumothorax was bilateral

MAURICE MEYERS M D

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Noetzel Inguinal Hernia in the Female (Ueber weibliche Leistenhernien) *53 Tag d deutsch Ges f Chir* Berlin 1929

In the treatment of inguinal hernia in the female the round ligament is frequently ligated and excised with the hernial sac The resulting frequently serious changes in the position of the uterus (torsion prolapse and kinking) are usually seen by the gynecologist rather than the general surgeon

In the textbooks it is always emphasized that the round ligament like the vas deferens in the male must be dissected from the hernial sac (Koch Doederlein and others) This is possible only in acquired hernia which according to Noetzel s experience do not constitute the majority In these the hernia escapes next to the round ligament and its peritoneal cone and above it The separation is accomplished very easily

Conditions are entirely different in the congenital hernia which are found not so rarely in children and constitute the majority of hernia in women The chief difference is that the extraperitoneal portion of the ligament is entirely absent The hernial sac the ligament of Nuck that has remained open contains the entire ligament which forms the posterior wall This may roll itself up into a broad plate which in children may be somewhat thicker and in women has considerable thickness

At operation Noetzel endeavors like Solms to draw the processus vaginalis entirely away from the inguinal canal The technique is that proposed by Noetzel for the Alexander operation in retroflexion of the uterus The dissected ligament is drawn extra peritoneally under the internal oblique muscle in an inward and upward direction and then under the necessary tension is firmly fixed by sutures in its upper parts between the external and internal oblique muscles and in its lower parts between the aponeurosis of the internal oblique and the rectus muscles

In congenital hernia in which the separation may be difficult because of the thickness and width of the ligament the entire ligament with the widely split hernial sac is sutured to the posterior or under side of the internal oblique and cremaster muscles and these muscular parts are united over it by a suture according to the method of Brenner The danger of a recurrence of the hernia through the peritoneal cone is overcome by splitting the hernial sac throughout its entire extent The peritoneal wound surface then heals to the abdominal muscles as after the radical operation proposed for children by Lourthore in which the hernial sac is cut off as high as possible and neither ligated nor sutured an operation which Noetzel carries out on children as a routine procedure

Internal hernia have never been found by Noetzel in women but according to Graser they are present in about 0 5 per cent of the usual inguinal hernia

STETTINER (Z)

Rardin I S Morrison M E and Smyth C M Jr Bile Peritonitis and Blue Ascites *Ann Surg* 1929 lxxxix 867

The classical symptoms of bile peritonitis are variable depending on the extent of the bile leakage but in the main they resemble those of an acute or subacute peritonitis As a rule the condition is associated with fever an increase in the polymorphonuclear leucocytes early marked abdominal tenderness and rigidity and varying degrees of distention as the disease progresses Vomiting occurs early and is persistent At first there is evidence of an irritative nephritis Later anuria may supervene Bradycardia and hypotension with slow irregular respiration are noted early

The conflicting evidence relative to the toxicity of the bile is due no doubt to variations in technique the administration of impure constituents and failure properly to control the experiments On the basis of accumulated clinical and experimental evidence it seems highly unlikely that the pigment is the toxic factor

Horrall and Carlson are quoted as having confirmed previous work indicating that the toxic factor of the bile is the bile salts They found the dialysate of whole bile to be toxic and the non-dialyzable portion to be non toxic

As a basis for the authors investigations the bile salts in whole gall bladder bile gall bladder and common duct fistula bile and bilious ascites were estimated and the bile pigment content of the blood and bilious ascitic fluids was determined. Bilious ascitic fluid was found to have a low bile content as compared with that of bile The degree of the fall in the blood pressure in dogs following the intravenous injection of bile bilious ascitic fluid and bile salts depended upon the concentration of bile salts in the material injected

Like Horrall and Carlson the authors found that 5 c cm per kilo of body weight of sterile whole gall bladder bile of the dog injected intraperitoneally caused the death of the animal within twenty four hours The injection of less than 3 c cm did not produce toxic symptoms

The authors assume that in cases of bile peritonitis an opening communicating directly with the biliary passages must have occurred

In cases in which considerable amounts of bile-stained fluid are found in the peritoneal cavity but

there are no acute symptoms so far as the fluid is concerned and at operation the peritoneum shows no reaction it is assumed that the toxic factor of bile is absent or is present in amounts too small to produce symptoms

The authors have attempted to differentiate cases in which bile causes a reactive inflammation of the peritoneum and those in which large amounts of bile stained fluid are innocuous The amount of bile salts found in the bilious ascitic fluid in four instances was insufficient to produce toxic symptoms

The low concentration of bile salts in the bile stained fluid is not believed to be a result of filtration through the walls of the extrahepatic bile ducts

W N Rowley M D

Wyss E The Roentgen Treatment of Abdominal Tuberculosis I Tuberculous Peritonitis (Ueber die Roentgenbehandlung der Abdominaltuberkulose I Peritonitis tuberculosa) *Schweiz med Wchnschr* 1928 ii 1029

Tuberculous peritonitis is most frequent between the ages of five and twelve years According to Matthieu it occurs in eight females to every two males The secondary form is much more common than the primary form

The author discusses the treatment after reviewing the anatomical types of the condition He states that roentgen therapy and heliotherapy are today considered the preferred methods When there is a large exudate several paracenteses are of great value In the fibro adhesive and fibrocaseous forms X ray treatment is to be recommended surgical intervention comes into consideration only in stenosis or localized adnexal tuberculosis Heliotherapy and treatment with the ultraviolet rays give good results in about the same percentage of cases The roentgen treatment has a purely local effect and can be given to ambulatory patients The other methods offer an opportunity for simultaneous local and general recovery but require time and money

Also in genital tuberculosis in the female X ray treatment is to be preferred to operation It results in a cure in about 80 per cent of the cases Surgical intervention may cause the formation of fistulæ or may disseminate the process even to the meninges In order not to cause permanent damage to the ovaries the dose should be less than the ovarian dose

Genital tuberculosis in the male is better treated with the X rays than by surgery but many patients prefer operation because it saves time and expense Irradiation is indicated also for bladder and intestinal tuberculosis bilateral and beginning unilateral kidney involvement and the persistence of pus or bladder ulcers following nephrectomy

P Klein (G)

Naoji K A Case of Pseudomyxoma Peritonei (Ueber einen Fall von Pseudomyxoma peritonei) *Arch japan Chir* 1928 v 930

The case reported was that of a woman thirty two years of age who presented symptoms of chronic peritonitis for eight months Pseudomyxoma peritonei was suspected as a small quantity of gelatinous fluid was obtained on paracentesis At operation the diagnosis was confirmed and the cause found to be a ruptured pedunculated pseudomucinous cystadenoma of the left ovary the size of a fist There were no implantation cysts on the peritoneum The case belongs to the group designated by Peters and Goldschmidt as pure cases of pseudomyxoma peritonei Operation was followed by smooth recovery As there were no signs of recurrence ten months after the operation the author believes the condition was permanently cured

F Haertel (Z)

Bothe F A The Fate of the Free Omental Graft In Abdominal Surgery *Ann Surg* 1929 lxxxix 886

The omentum has an important part in the defense reactions in various pathological conditions of the abdomen It encapsulates necrotic tissue increases the viability of partially devitalized bowel and is of value as a graft free or attached to cover serosal defects Its ability to increase resistance to peritoneal infections is due to its power of absorption and its mobility

In experiments carried out by the author on dogs to ascertain the fate of the free omental graft in abdominal surgery transplants were applied over (1) the sites of excision of a supposed gastric ulcer (2) the closure of an artificially produced perforation of the small bowel (3) smooth peritoneum of the small bowel (4) denuded areas on the small bowel (5) the pylorus following a Rammstedt operation (6) the site of a pyloromyomectomy and (7) defects in the spleen and liver accompanied by severe hæmorrhage All of the operations were performed under aseptic conditions Anæsthesia was induced by the intraperitoneal administration of sodium amytal and the suturing was done with plain catgut

There are two kinds of omental grafts the free and the attached Attached grafts are preferable in the presence of infection but their use may be followed by internal herniation and adhesions with subsequent obstruction Free transplants are not successful when infection is present

The findings of examinations to determine the fate of thin free grafts used in this experiment were as follows

After seventy two hours traction on the grafts showed that they were adherent but could be easily detached After two weeks they could be detached only by forceful traction After two months it appeared that partial absorption had occurred although the grafts were still definitely elevated above the surrounding surface After four and one half months the grafts were entirely absorbed and it was impossible to distinguish the area over which they had been sutured The thick fat grafts at this time were still easily identified and showed very little if any absorption

In transplants seventy two hours old histological study revealed young blood spaces and fibroblasts

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In cases in which considerable amounts of bile stained fluid are found in the peritoneal cavity but

supporters point these out and express the belief that some other factor must be involved This factor is the diseased tissue itself

Two components of abdominal pain can be distinguished clinically—the truly visceral pain and the referred pain Their relative importance differs in different subjects, and they are probably subserved by different nervous connections—the truly visceral pain by the vagus and the referred pain by the sympathetic This conception may be of help in the operation *for neurotomy for gastric pain*

The author believes that upright posture has modified the position of the human stomach in relation to its somatic segments and its reflex symptoms and that this change may have some bearing upon gastric neuroses

Biological considerations suggest that the tissue reactions against disease—inflammatory infiltration and powerful peristalsis—are adequate stimuli for pain This conclusion is supported by clinical and experimental data HARRY W FINK M D

Emery E S Jr and Monroe R T Peptic Ulcer A *Study of 556 Cases* *Arch Int Med* 1929 xliii 846

This article is based on the cases of gastric and duodenal ulcer which were admitted to the Peter Bent Brigham Hospital Boston in the period from 1913 when the hospital was opened, to September 1920

Of the 556 patients 407 were admitted to the medical wards 149 were admitted directly to the surgical wards and 155 were transferred from the medical to the surgical wards Four hundred and sixty (82 5 per cent) of the patients have been followed up Seventy six (13 6 per cent) of the total number are dead from various causes 264 (47 4 per cent) have been followed from their discharge up to the present time 120 (21 5 per cent) were heard from for some time after their discharge but have not been heard from recently and 96 (17 5 per cent) have not reported

The duration of observation ranged from six months to thirteen years and the average period of observation was slightly more than four years

Hyperacidity was present in 50 per cent of the cases There was only 1 proved case of achlorhydria and in this instance the diagnosis of ulcer was made only by X ray examination there being no symptoms of the lesion The X rays failed to show evidence of an ulcer in 36 cases (7 per cent)

Hæmorrhage occurred in 194 cases (34 8 per cent) and was the cause of death in 8 Seventy seven patients had more than 1 hæmorrhage Hæmorrhage was the first sign of the lesion in 25 cases

Acute perforation occurred in 38 cases and was fatal in 11 (28 per cent) There was no tendency for this complication to appear early in the course of the disease

Cancer was found in 6 (4 4 per cent) of the 135 cases of gastric ulcer In 3 it apparently developed from the ulcer

Retention occurred in 135 cases, and in 92 was due to pyloric spasm

Hourglass deformity occurred in 16 cases

No greater incidence of foci of infection was found in this group than in the general hospital population

To date ulcer has been the cause of death in 41 cases Twenty one patients died following operation

The results of all forms of treatment showed that about 60 per cent of the patients were relieved after an average observation period of four years The strict Sippy treatment proved to be the best of the medical methods and gastro enterostomy with plication of the pylorus the best of the surgical procedures Surgical methods were somewhat more effective than medical methods but this was offset by the fact that the results in the cases in which surgical methods were employed were poorer than those in cases in which medical treatment was given The evidence indicates that ulcer is a chronic disease and that all known methods of treatment are merely palliative Cure is probably rare Each method has its advantages and disadvantages which must be weighed in the individual case The best results are to be expected from a wise choice of the methods The patient should be informed regarding the nature of his condition and the degree of relief that can be expected EMIL C ROBITSHEK M D

Finsterer The Surgical Treatment of Gastric Carcinoma (Die chirurgische Behandlung des Magenkrebses) *53 Tag d deutsch Ges f Chir* Berlin 1929

This report is based on 535 operations for gastric carcinoma—340 resections 8 total extirpations 88 gastro enterostomies and 99 exploratory laparotomies

The result of simple resection (resection of the stomach alone) were relatively good in spite of very wide indications (65 per cent of all carcinomata were operated upon radically) In 211 simple gastric resections there were 13 deaths a mortality of 6 1 per cent whereas in 129 complicated resections (simultaneous resection of the pancreas colon and right œsophageal wall) the mortality was 41 per cent

The results in patients of advanced age were not materially worse than those in young patients In the cases of 139 patients under sixty years of age the mortality of simple resection was 5 7 per cent whereas in the cases of 72 patients over sixty years of age it was 6 9 per cent In the cases of 85 patients under sixty years of age the mortality of complicated resections was 42 3 per cent and in those of 44 patients over sixty years of age it was 38 6 per cent General anæsthesia is to be avoided especially in the cases of old persons The author rejects the Billroth I procedure on account of the danger of leakage He employs a modification of the Billroth II operation He emphasizes the importance of very careful after treatment (pulmonary gymnastics)

Of 199 patients 50 (25 per cent of those subjected to resection and 30 8 per cent of those discharged as healed) remained free from recurrence for from five

Endothelialization of the newly formed blood paces begins in seventy six hours and angioblastic and fibroblastic proliferation is pronounced during the first two months after transplantation

The development of postoperative adhesions was reduced to the minimum by employing small grafts and covering over the raw surfaces on both the graft and omentum as completely as possible The effective hæmostatic action of the free omental graft was clearly demonstrated

The author concludes from his experiments that thin omental grafts are preferable to thick grafts for free transplantation and that the ideal graft should be well vascularized Free transplants should be carefully sutured to the underlying tissue and all raw edges on the omentum from which the graft is severed should be covered over

Free grafts unite better when the peritoneum has been denuded Absorption of the thin graft is nearly complete after four and a half months

CYRIL J GLASPEL M D

Rothschild N S Safety Factors in Mesenteric Ligations *Ann Surg* 1929 lxxxix 878

The blood supply of the intestine consists of the vasa recta arising from the last series of mesenteric arcades and passing directly to the bowel but alternating first one passing in front of and then one passing behind the bowel and numerous lateral offshoots which anastomose freely with branches from adjacent arteries A segment of bowel may be identified from the arrangement of these vessels In the duodenum there is an occasional arcade In the jejunum the arcades are more numerous In the terminal ileum a plexus formation is found

The author studied the effect upon the viability of the bowel of ligating the mesenteric vessels in various locations in experiments on dogs carried out under aseptic conditions with the animals under amytal anæsthesia From his findings he draws the following conclusions

Interference with the superior mesenteric artery results in gangrene of the bowel while interference with the circulation of the small intestine between the mesenteric attachment and the superior mesenteric artery is not usually accompanied by gangrene of the bowel Detachment of the mesentery from the bowel may not result in gangrene Severance of the mesentery of the large bowel with preservation of the marginal artery does not interfere with the viability of the large bowel

In dogs the re establishment of the circulation of the bowel may take place through an omental graft through the marginal artery of the segment or through the formation of new vessels communicating with the vessels severed Adhesions are not important as a means of re establishing the circulation except in the case of the omentum When omentum is wrapped around the intestine from which the blood supply has been ligated gangrene will not occur if the area affected does not exceed 3½ cm.

Because of the anatomical arrangement of the vessels the degree of safety in mesenteric ligation is much greater in man than in animals

When the viability of the gut is doubtful conservative measures are justified as radical procedures may prove fatal

CYRIL J GLASPEL M D

GASTRO INTESTINAL TRACT

Haden R L and Orr T G Experimental Dehydration Chemical Changes in the Blood of the Dog Contrasted with Those Following Obstruction of the Cardiac End of the Stomach *J Exper M* 1929 xlix 945

Haden and Orr report a comparative study of the blood and urine in dogs with experimental dehydration and dogs with obstruction of the cardiac end of the stomach The average duration of life was slightly longer in the former than in the latter The urine output per kilo of body weight was almost twice as great in dehydration as in obstruction The increase in non protein nitrogen and urea nitrogen was much the same in the two groups although somewhat more marked in the animals with obstruction The chlorides of the blood were markedly increased in dehydration and slightly decreased in obstruction The increase in fibrinogen and total protein was twice as great in the dogs with obstruction as in those with dehydration

These findings indicate that some factor or factors in addition to dehydration must be responsible for the toxæmia of cardiac obstruction

In a study of the chemical changes in the blood of six dogs with closed loop obstruction of the upper jejunum the authors found that the duration of life was less in closed loop obstruction than in simple obstruction All of the animals showed a marked rise in the non protein nitrogen and urea nitrogen and a fall in the chlorides In the majority the carbon dioxide combining power of the plasma was increased The findings in closed loop obstruction were essentially the same as those in simple intestinal obstruction

HARRY W FINK M D

Kinsella V J Normal and Pathological Physiology of the Stomach *Lancet* 1929 ccxvi 1130

In attempting to explain pain in disease of the abdominal viscera Mackenzie has suggested an irritable focus in the spinal cord as a factor and Lennander and Morley have dealt with the importance of the parietal peritoneum and the mesentery Hurst and Ryle have suggested that functional alterations in the tension of the visceral muscle may play a part and the kymographic school have suggested powerful peristalsis as a cause Sippy and Palmer have directed their attention to the acidity of the gastric contents Kinsella regards it as remarkable that all possible parts surrounding the involved area have been fully considered while the tissue actually diseased has been comparatively neglected

All of the hypotheses to explain the pain of gastric ulcer have their defects In many instances their

resection for gastrojejunal ulcer twice a Judd pyloroplasty 10 times and partial duodenectomy 4 times Of the 14 cases in which a view of the lumen was obtained contact ulcers of the duodenum were discovered in 7 (50 per cent) In 1 case 4 ulcers and in another 5 ulcers were found

Joyce advocates the use of pyloroplasty by the method of Finney Judd or Horsley instead of gastro enterostomy whenever possible

JOHN W NUZUM M D

D Allaines F Primary Epithelioma of the Jejuno Ileum (Sur l épithélioma primitif du jéjuno iléon) *J de chir* 1929 xxxiii 449

To the forty seven cases of primary jejuno ileal epithelioma collected from the literature in 1913 by Venot and Parcellier the author adds sixty six reported since that date and a case of his own

In the jejunum the tumor is usually situated at some distance from the duodenojejunal angle but in the ileum it is often close to the ileocæcal juncture It appears at an earlier age than cancer of other organs being most frequent in the fourth decade In one of the cases on record it developed at the age of three and a half years

It is a small annular growth giving the intestine the appearance of being ligated When the intestine is opened a typical cancerous ulceration of annular form is found On palpation it gives the sensation of a small Murphy button placed at the level of an anastomosis Above the lesion the intestine is dilated hypertrophied and œdematous Even in the absence of acute occlusion the dilatation may be marked and extensive In the author s case in which the neoplasm was situated 8 cm below the duodenojejunal angle the stomach was involved in the dilatation

The tumor grows slowly and for a long time is confined to the immediately adjacent glandular territory Invagination and perforation are rare The former has been reported seven times The latter according to Hinz occurs in only 3 per cent of the cases Generalization takes place late Dissemination occurs most frequently by subperitoneal lymphangitis There is little tendency toward the formation of a tumor in the true sense of the word When a neoplasm is found it is due rather to the presence of large masses of glands with adhesions and agglomerations of intestinal loops and omentum

The histological type is that of adenocarcinoma Emaciation is an almost constant early sign and intestinal disturbances suggestive of progressive occlusion usually precede even an acute occlusion Pain is a fairly constant symptom The presence of a tumor is a valuable but inconstant sign Contrary to what might be expected the tumor is never found near the median line and is not very mobile Of twelve cases in which its situation was recorded it was found in the right iliac fossa in six and on the left side in six (five times in the iliac fossa) When the lesion is close to the duodenojejunal angle gastroduodenal symptoms may be prominent

Roentgen examination is the chief aid in the diagnosis but the author is of the opinion that other methods of examination—a search for blood in the stool *for instance—should be employed more frequently* In the roentgen picture the retrostricture dilatation is of more importance than the stenosis itself In the author s case the entire duodenum and the origin of the jejunum were very voluminous and showed little contractility The picture was evidently that of a very pronounced dilatation of long standing with secondary atony of the walls The author regards this weakness of the walls of a dilated intestinal segment as highly informative For comparison with the roentgenogram of this case he presents the roentgenogram of a case in which the stenosis was found to be due to simple intestinal spasm In the latter case the intestinal segments above the stricture were highly contractile and the stomach was small and the site of violent contractions Three cases are cited to show that it may be almost impossible to differentiate between tuberculosis and cancer of the small intestine

Secondary tumors of the intestine which according to Lecene are more frequent than primary epithelomata are usually secondary to tumors of the uterus ovary or stomach Plastic linitis is particularly liable to metastasize early into the intestine Under the name carcinoid tumors Banting has described multiple tumors of the intestine with clinical and anatomical characteristics of their own These tumors develop apparently simultaneously They are rounded and are situated generally in the submucosa of a single more or less long intestinal segment They vary from a few millimeters in diameter to the size of a walnut They are formed of fibrous stroma with few cells and are poorly vascularized In the midst of the stroma there are alveoli connected with one another by cords of cells forming a trabecular system Mitotic figures are rare There is no associated clinical history They are most often found at autopsy in persons who have died from some other disease Nevertheless they are capable of metastasizing causing intestinal stenosis and death Their origin is still a subject of dispute

The treatment of choice for epithelomata of the small intestine without occlusion is wide resection of the tumor with the corresponding mesentery and its glands If the tumor is situated near the duodenojejunal angle Y shaped anastomosis may be necessary implantation of the jejunum into the stomach and of the duodenum into the jejunum as was done in two of the cases cited from the literature Resection is an operation of only moderate gravity if it is performed in the absence of occlusion The mortality in sixteen of the cases collected by Venot and Parcellier was 18 7 per cent in forty two later cases it was 15 per cent In general the operation is done in one stage In the older series there were three cures of more than seven years duration In the later series the late results in

to eighteen years At the end of ten years 14 per cent of those treated by resection and 17 4 per cent of those discharged as healed remained free from recurrence For permanent cure the removal of the greater omentum and the cleaning out of the lymphatic area are very important If the carcinoma has invaded the mesocolon resection of the colon is not absolutely necessary since resection of the mesocolon alone may give a permanent cure Of 46 patients treated by mesocolon resection 13 (28 2 per cent of the number treated by resection and 34 2 per cent of those discharged as healed) remained free from recurrence for from five to eighteen years

The late results are poorer in ulcer carcinoma than in primary carcinoma Although of 32 patients with beginning ulcer carcinoma 10 remained free from recurrence for more than five years of 28 patients with advanced ulcer carcinoma only 1 remained well longer than five years The poor prognosis of ulcer carcinoma can be combated best by prophylactic resection of callous ulcers of the stomach

In the discussion of this report Borchard (Charlottenburg) called attention to the fact that under certain conditions a gastrocolic resection may be easier than a simple gastric resection

Stettiner (Z)

Edwards H and Dukes C Congenital Diverticula of the Intestine With the Report of a Case Exhibiting Heterotopia *Brit J Surg* 1929 xvii 7

The authors report the case of a boy sixteen years of age who had been subject since early childhood to attacks of acute abdominal pain often accompanied by hæmorrhage from the bowel Operation revealed a diverticulum of the small bowel 28 in long with a perforated ulcer near its end A portion of the gut was resected with the diverticulum Uninterrupted recovery resulted

On microscopic examination of the diverticulum the surface layer of the mucosa was found to be like that of normal epithelium of the small intestine but beneath it there was a deeper stratum of mucosa typical of human gastric mucous membrane At the point of perforation the cellular arrangement was similar to that of a gastric ulcer

In the authors opinion this case represents an attempt at the formation of a twin which was begun at such a late stage of development of the ovum that the extent of reduplication was limited to a segment of the bowel George A Collett M D

Hennes P Congenital Stenoses of the Intestine (Ueber angeborene Darmverengungen) *Arch f path Anat* 1929 cclxv 1764

This is an autopsy report of four cases of rare forms of intestinal stenosis In the first case the duodenum was occluded by a malformation of the pancreas which surrounded it Pancreatitis and cholangeitis were also present In the second case the stenosis was due to a fold at the mouth of the pancreatic duct with secondary inflammation. In the third case the cause of the stenosis was an infra papillary fold formation with incomplete torsion of the bowel and an umbilical hernia The fourth case showed twisting of a loop of duodenum with fixation

The author reviews the literature on congenital stenoses of the intestine and concludes that the causes are developmental disturbances with secondary epithelial proliferation W Koenig (Z)

Pool E H Diverticulum of the Duodenum *Ann Surg* 1929 xc 138

The case reported was that of a woman sixty two years of age who for several years had had attacks of vomiting lasting for from several days to a week X ray studies showed a large duodenal diverticulum with a definite fluid level At operation the diverticulum was found closely opposed to the posterior aspect of the head of the pancreas It measured about 2 in in diameter The neck was 1 in in diameter and was situated at the lower part of the mesial aspect of the descending duodenum The operation was followed by smooth recovery

This case is thought to be of particular interest because of the periodic attacks of vomiting which were associated with hyperglycæmia and glycosuria presumably due to pressure upon the pancreas or its duct by the dilated diverticulum

Wilbur Bailey M D

Klein E Left Vagus Section and Partial Gastrectomy for Duodenal Ulcer with Hyperacidity *Ann Surg* 1929 xc 6

Klein reports on eight recent cases of duodenal ulcer with high acidity in which a partial gastrectomy with section of the left vagus nerve was done by Berg at the Mt Sinai Hospital New York Whereas after partial gastrectomy alone only one quarter of the patients are anacid all of the eight patients with section of the vagus nerve are at present anacid and free from gastric symptoms All are well nourished and have gained weight There was no mortality Klein suggests that section of the left vagus nerve serves to cut off the cephalic phase of gastric secretion John H Nuzum M D

Joyce T M Resection of the Proximal Duodenum and Pyloric Sphincter for Multiple Duodenal Ulcers *Ann Surg* 1929 xc 79

For cases of multiple ulcers of the duodenum Joyce advocates pyloroplasty and complete resection of the proximal end of the first portion of the duodenum including the ulcerative lesions and the pyloric ring of the stomach followed by end to end anastomosis He believes that the figures of Judd who reports the discovery of multiple ulcers in only 0 71 per cent of 4 901 cases of duodenal ulcer are too low

In a series of 50 consecutive cases of duodenal ulcer Joyce performed gastro enterostomy 32 times simple closure of acute perforations twice a Pólya

sions in the intestinal wall and many secondary glands can be removed in one block

Of a total of 241 cases operated on by Turner a radical operation was possible in 142 In 85 only a palliative anastomosis or some type of colostomy could be done In 14 cases only an exploration was possible In the 142 cases in which the growth was removed there were 27 deaths

In 78 of the 142 cases operated on radically the tumor was in the sigmoid or descending colon The more urgent cases of obstruction in which bowel drainage is clearly indicated are for the most part those in which the growth is situated beyond the splenic flexure The mortality of excision in such cases has been almost halved by preliminary drainage

Unless there is some unequivocal evidence of distant dissemination of the cancer the patient should be given the chance which operation alone offers

Large size of a growth or its fixity or involvement of neighboring structures does not necessarily mean that the neoplasm is irremovable Large growths of slow development are often the most favorable The size of the growth and the reaction of the surrounding tissues as shown by the development of adhesions often suggest that the body is capable of good resistance to the malignant invasion

Extension of the growth into the mesentery is much more unfavorable than extension in the opposite direction

The ultimate aim of the radical operation should be the restoration of function with restoration of the continuity of the intestinal canal In only 18 of the 142 cases reviewed was it necessary to leave a permanent colostomy after removal of the growth There is no period at which a patient may be regarded as free from the possibility of recurrence but the likelihood of recurrence diminishes rapidly after five years

Excision holds out a good prospect of long relief It can often be performed with a lower mortality than palliative operations Even if it is followed by recurrence it is the best procedure in most cases It is safest when carried out in stages

The most important early symptoms of cancer of the colon are pain in the form of attacks of mild colic irregularity of the bowels following previous regularity indigestion loss of blood and progressive loss of weight and vigor

The advantages of primary drainage of the bowel by cæcostomy are summarized as follows

1 Obstruction is relieved whether it is acute partial or potential

2 The recurring distention of the colon by gas is relieved Distention is apt to occur in cases in which the function of the colon has been interfered with for some time

3 The bowel can recover from the obstruction as regards both infection and loss of muscle tone

4 The bowel can be irrigated from the anus to the cæcostomy or in the opposite direction

5 Pain is relieved and the patient is rendered able to sleep and assimilate nourishment

After the preliminary cæcostomy, it is prudent to defer further treatment as long as the patient continues to improve If his progress ceases after the mechanical obstruction has been relieved by satisfactory drainage further operation should not be delayed for longer than two weeks

Turner describes the operative technique

SAMUEL KAHN M D

Schmieden Cæcum Mobile as a Cause of Illness (Das Caecum mobile als Krankheitsursache) *53 Tag d deutsch Ges f Chir* Berlin 1929

Schmieden states that the term cæcum mobile ' is a misnomer as the condition to which it is applied is not a changing position of the cæcum but a malposition deep in the true pelvis which remains constant even during movement of the body It would therefore be more correct to use the term cæcum pelvinum According to Payr this position leads to a mechanical obstipation The malposition is not a too great rotation a too lateral position of the cæcum or a simple sliding The cæcum must surmount the projecting psoas ridge to reach its position in the small pelvis Only the gravid uterus may possibly displace it from its situation

In some cases the displacement produces no symptoms but as a rule it causes rather considerable disturbances In order to demonstrate the mechanical conditions better Schmieden showed plaster moulds of the interior of the abdominal cavity In these the tripartite division of the cavity was readily recognized The cavity is divided into a right and left half by the vertebral column The moulds showed the sites of the various organs in the right and left sides The pelvic cavity is separated from the upper halves by a triangle, the apex of which is formed by the projecting promontory and the two sides of which are formed by the two psoas ridges

Schmieden called attention to the normal position of the cæcum and the great distance it must traverse to attain a position where it lies in the small pelvis The obstipation is explained by distention and kinking The moulds showed also that an operative attempt to relieve the condition by reefing would be useless Only resection from the ascending colon to the lower end of the ileum and an anastomosis with the best possible imitation of Bauhin s valve can overcome the condition Schmieden presented also a large number of sections through the plaster moulds demonstrating the normal and pathological positions of the various organs

In the discussion of this report PAYR (Leipzig) stated that much can be learned from such plaster moulds of the abdominal cavity STETTINER (Z)

Hartglass Volvulus of the Cæcum (Volvulus du cæcum) *Bull et mém Soc nat de chir* 1929 lv 291

Wilmoth A Case of Volvulus of the Cæcum (Un cas de volvulus du cæcum) *Bull et mém Soc nat de chir* 1929 lv 291

HARTGLASS reports a case of volvulus of the cæcum in a man sixty years of age The pain was

twenty six cases are recorded Forty three per cent of these patients were alive one year or more after the intervention The *longest cure in this series* was fourteen years Most of the other patients died of local recurrence or of metastasis from five to six *months after the operation*

When resection i mpossible the logical opera tion is ileocæcal or jejunojejunal anastomosis This sometimes gives good results even in unfavorable cases Clinical cures lasting up to two years have been reported In acute occlusion entero anasto mosis is the only procedure that can give a favorable result Simple jejunostomy had a mortality of 75 per cent in the four cases in which it was tried and is incapable of greatly prolonging life

Brief histories of sixty six cases reported in the literature since 1913 are given

FLORENCE A CARPENTER.

Lapoint A A Hæmorrhagic Infarct of the Ileum Caused by Venous Thrombosis of the Ileum Following Appendicitis Enterectomy Cure (Infarctus hémorragique de l iléon par thrombo e veineuse post appendiculaire entérectomie guéri son) *Bull et mém Soc nat de chir* 1929 lv 561

Th theory that intestinal infarction can be caused by venous thrombosis has been long in gaining ac ceptance The possibility of such an occurrence has been questioned ever since the first observations of Picqué and Gregoire which were reported in 1902

El ewhe e in the body venous thrombosis is in capable of completely blocking the circulation but in the intestine there are the same number of veins as *arteries and therefore the obliteration of a vein* compromises the vitality of the intestine equally with obliteration of an artery The intramural ves sels will maintain the circulation provided the seg ment involved does not exceed 30 cm When a greater segment is involved necrosis will occur (Bétouin)

The author has operated upon three cases of intestinal infarction caused by venous *thrombosis* In two the exciting cause was appendicitis Ap pendicit s is probably the cause in many obscure cases The possibility of a propagating thrombo phlebitis is easily understood The peculiarity of infarction *of venous origin is its delayed appearance*

The case reported was that of a girl seventeen years of age who was operated on for gangrenous ap pendicitis with extensive fibrinopurulent pelvic peritonitis Complete recovery followed the usual *period of convalescence* Four months later the patient was seized with violent abdominal pain and vomiting During the next twelve hours the vomit ing was not repeated *but no fæces* or gas was pas ed and the pulse *rose to 140* In the right side of the abdomen there was a localized area of distention which was sensitive to pressure

Laparotomy *performed on the basis of a diagnosis* of *intestinal obstruction* revealed free blood in the peritoneal cavity *and* a hæmorrhagic infa ction of 1 meter of the ileum extending 20 cm above the cæcum The arteries to the infarcted segment were permeable but the veins were *filled with clots* Resection was done and the *two ends of the in es* ne fixed in the inferior angle of the abdominal incision

Soon after the operation the usual complications of a fistula of the small intestine—ulceration of the skin and loss of weight—developed In the third week a *Dupuytren* enterotome was appl ed to the spur and the normal intestinal current was quickly re-established Several weeks later the rem..... g fistula was cured by resection and end to-end anastomosis

A correct pre-operative diagnosis i seldom made in these cases because intestinal hæmorrhage is often lacking In some cases however the distinction be tween venous and arterial occlusion could probably be made In the presence of cardiac or aortic d s ease or arteriosclerosis the infarct will be of arterial origin When there has been a recent appendectomy or splenectomy the occlusion will be probably venous

*Attention is called to the disadvanta es of ileos*tomy in these cases ALBERT F DEGROAT M D

Balli R The Sphincters of the Colon *Radiology* 1929 xii 484

The phincters of the colon demonstrated roent genologically are the following

1 The ileocolic phincter of Varolius This is the sphincter usually described by anatomists which is located at the terminal end of the ileum

The sphincter of Busi or colicocæcal sphincter situated between the cæcum and the asce ding colon below the ileocæcal orifice

3 The sphincter of Hirsch in the proximal seg ment of the ascending colon above the cæcum.

4 The sphincter of Cannon in the transverse colon between the first and third portions *It ex* tends over an area of about 1 cm and is usually distinct

5 The sphincter of Payr and Strauss situated at the left flexure of the colon

6 The colosigmoidal sphincter This was dem onstrated by the author and is produced by a tonic or spastic contraction of the colon at its juncture with the sigmoid

7 The sphincter of Moutier in the terminal colon between the sigmoid and the rectum

8 The sphincter of Rossi at the level of the middle portion of the sigmoid This sphincter is ob erved particularly in *children*

The author has studied these sphincters *histo*logically HARRY W FINK M D

Turner G G Cancer of the Colon *Lancet* 1929 ccx 1 10 7 1073

Growths in the colon are low in the scale of malignancy They do not spread widely or rapidly in or away *from the bowel Their blood vessel and* lymph vessel territories so closely correspond that free removal of glands can be effected safely and wide resection and subsequent anastomoses can *be d ne* easily In most cases the primary growth, *its exten*

The prognosis of cæcal volvulus is unfavorable In 168 cases collected by Podlaka recovery resulted in only 38 per cent When operation is performed late and resection is necessitated by gangrene of the intestine the mortality exceeds 50 per cent

In the discussion of this report LECÈNE agreed with Lenormant that in cases of acute occlusion appendicostomy is not to be recommended but that it has its advantages when drainage of the cæcum and injections of drugs into the large intestine are necessary In a case of amœbic dysentery seen by Lecene this procedure was followed by considerable improvement PACE

Greensfelder L A and Hiller R I Cæcal Diverticulosis with Special Reference to Traumatic Diverticula *Surg Gynec & Obst* 1929 xlviii 786

Solitary acquired diverticula of the cæcum may be primary or secondary Those of the secondary or traumatic type arise as the result of an operative procedure in the lower part of the abdomen on the right side whereas those of the primary type arise independently of such manipulation

Primary solitary cæcal diverticula are rare The cause has not been determined The authors suggest that it may be the persistence of the appendix which appears early in embryonic life but normally disappears before the true appendix develops

Secondary or traumatic diverticula occur more frequently than primary diverticula but the paucity of the literature suggests that they also are uncommon The pursestring suture used in appendectomy has been advanced as a cause

The authors report a diverticulum which bore no relation to the stump site of the appendix being present on the anterior surface of the cæcum

Solitary cæcal diverticula may produce symptoms of acute or chronic appendicitis necessitating operation Their presence should be suspected when the symptoms of appendicitis recur after appendectomy

To determine the cause of secondary cæcal diverticula the authors made studies in 5 385 major operations and 400 autopsies performed on adults Two diverticula were found at operation and 2 at autopsy The autopsies included 23 cases in which appendectomy had been performed from three days to twenty years before death Serial sections were made from the stump sites of 13 of these cases and single sections were taken from most of the others In addition 18 dogs were operated upon The first 5 were discarded Of the remaining 13 7 were operated upon by the ligature and drop technique and 6 by the pursestring method Serial sections were made also of the stump sites of these 13 dogs a total of approximately 1 000 sections being studied

From the literature and their findings the authors conclude that the etiological factors in the development of the secondary diverticula are

1 Eversion of the cæcum between 2 constricting adhesive bands

2 Traction of a narrow adhesion

3 Eversion of the stump site as the result of weakness due to the migration of a silk pursestring

4 Eversion at the stump site as the result of weakness following rupture of a stump abscess into the lumen of the bowel W N ROWLEY M D

Evojan S The Influence of Appendectomy on Gastric Secretion (Ueber Einfluss der Appendektomie auf die sekretorische Magentaetigkeit) *Nov chir Arch* 1928 xv 12

It has long been known that the appendix has an effect on the function of the gastro intestinal tract

The author wished to determine whether appendectomy has any influence on the secretory activity of the stomach and whether if it does this influence is exerted by the appendix as a whole by certain layers of its wall or by the mesenteriolum He therefore examined the gastric juice before and after appendectomy in 190 cases The examinations were made at ten-day intervals over a period of six months The patients were males varying in age from eighteen to fifty five years One hundred and fifty five had chronic appendicitis 27 subacute appendicitis, and 7 acute appendicitis with a plastic exudate In 100 cases the appendectomy was performed with the usual ligation of the mesenteriolum and base of the appendix *en masse* In 40 cases the peritoneal layer was spared and in 35 cases the muscularis and serosa were spared In 15 cases a wedge shaped piece of the cæcal wall was removed with the appendix In 13 of 156 cases of chronic appendicitis microscopic examination showed the appendix to be normal

In 75 per cent of the cases the removal of a pathological or normal appendix was followed by a decrease in the acidity of the gastric juice regardless of whether it was high normal or reduced before the operation In a large number of the cases this reduction in acidity persisted for at least six months The method of operation apparently played no part in the change The cause of the change is to be sought in the removal of the mucosa as this was the only layer of the wall which was removed in all cases The author attributes the change to the removal of the cells of Masson in the Lieberkuehn glands of the appendix It is possible that these cells have an effect on the secretory and motor functions of the stomach This would explain why the acidity is nearly always increased in hyperplasia of the argentaffin cells and decreased after appendectomy ALIPOV (Z)

Viannay C Ulceration of the External Iliac Artery Caused by a Drain After Operation for Acute Appendicitis Followed by Drainage (Ulcération de l artère iliaque externe par un drain après une appendicectomie à chaud suivie de drainage) *Bull et mém Soc nat de chir* 1929 lv 303

Viannay reports two cases The first was that of a girl sixteen years of age who had an attack of pain in the right side of the abdomen with bilious vomiting which was not recognized as due to appendicitis A week later the symptoms recurred and there was generalized peritonitis with contraction of the

violent and came on in attacks The temperature was 37 5 degrees C and the pulse between 80 and 90 *Vomiting had occurred In the right iliac fossa* which was extremely painful on pressure there was intense contraction of the abdominal wall In spite of the ab ence of fever a diagnosis of acute appendi citis with threatened perforation was made (The author states that he has seen a case of gangrene of the appendix without fever)

At operation the cæcum and the colon as far as the infrahepatic angle were found twisted about 90 degrees in a clockwise direction around the vertical axis The torsion may have been due to a free and floating mesentery The appendix was used as a means of fixation After ligation and resection of its mesentery it was drawn outside the abdomen by means of catgut so that as large a surface as possible of the anterior wall of the ascending cæcum would be placed in contact with the peritoneum The base of the appendix was fixed by means of several linen sutures to the parietal peritoneum and to the mus cles *of the wall*

Gas was passed twenty four hours after the opera *tion and a bowel movement* occurred on the third day The appendix became gangrenous and was resected above its ligature Since his di charge from the hospital the patient has been working as a farm laborer and there has been no tendency toward re currence of the volvulus

Wilmoth s case was that of a woman seventy *four years of age who presented marked distention of the* abdomen along the median line Several loops of intestine could be traced on the abdominal wall No stool had been passed for six days Vomiting had occurred At operation the cæcum was found to be enormously distended purple and very heavy When it was untwisted with the hands counter *clockwise one and a half turns the ileum and cæcum* returned to a quasi normal position but the cæcum did not empty Further investigation revealed a band which stretched from a bundle of small in testines to the peritoneum of the right internal iliac fossa When this wa cut it became apparent that the ileum cæcum and ascending colon were not *fixed normally to the posterior* abdominal wall They were disposed as in the fetus A Pezzar sound was implanted in the cæcum and fixed there by a *pursestring* suture of linen thread the cæcum was fixed by four linen threads to the lower extremity of the median incision and the rest of the incision was closed in one layer with three bronze wires

A stool was passed on the third day after the operation When the patient left the hospital the intestine was functioning *no* rmally but two months after the operation she died of volvulus of the pelvic colon At autopsy *the cæcum* was found to be in a normal position well fixed to the abdominal wall

Wilmoth believes *that the t* m volvulus of the *cæcum* should be reserved for cases in which the torsion is limited to the cæcum *the ascending* colon and the terminal part of *the* ileum He emphasizes that this condition must be differentiated from ad hesions of the cæcum around a transverse axis which are not true torsions and from torsions which in volve with the cæcum and the ascending colon all or the greater part of the small intestine Volvulus of the cæcum as thus defined is rare especially in France Lenormant found it in *only three of eighty* eight cases of intestinal occlusion One of them he reported himself and another is the case reported in this article by Wilmoth

The third case observed by Lenormant was that of a woman forty three years of age who was taken with acute pain throughout the right side of the abdomen which was associated with vomiting *The* pain persisted until the next day when she entered the hospital At examination the hypochondrium and right iliac fossa were found extremely sensitive and there was marked muscular contraction The patient had a tendency to keep the right thigh flexed The pulse was rapid and strong The tem perature was 38 4 degrees C *A* diagnosis of acute appendicitis was made

At operation performed immediately the cæcum *and the colon were found enormously distended* They had a complete mesentery and showed a be ginning torsion with stricture at the *junctu e of the* ascending and transverse colon whi h prevented the passage of gas In addition there was a dense vas cular layer which coming from *the lateral* wall of the abdomen compressed the large intestine After resection of the membrane and *the return* of the cæcum and ascending colon to *their places* gas pas ed freely into the *transverse colon* Recovery was uneventful

Wilmoth is of the opinion that the occurrence of cæcal volvulus requires *the presence* of a defect in union and persistence of a mesentery of the cæcum and ascending colon *Sometimes* the malformation *is more complex I erst tence of* a mesentery of the cæcum and ascending *colon is qu te* common but volvulus *of the cæcum is rare* Great muscular efforts dietary indiscretions especially large meals *after a period of fasting* and intestinal fermentation leading to sudden distention of the cæcum by gas have *been considered* causes favoring volvulus A finding common to all of the three cases seen by Lenormant was a peritoneal band t th neighbor hood *of the right* colic angle which required section before the volvulu could be untwisted and the in testinal *circulation could be re established*

Cæcal volvulus requires immediate detorsion or *resection* Detorsion suffices if the twisted intestine has retained its vitality and if its vessels are *not* thrombosed Opening of the *intestine is often* necessary to empty the distended cæcum which is ready to burst and cannot be *returned* to the ab domen *In other cases it i done* as a precaution to combat paralysis of the intestine *and* insure rapid evacuation of the toxic contents Fixation of the untwi ted intestine seems *logical but because* of the danger associated with prolongation *of the* oper ation it is frequently not done When the intestine is gangrenous it must be resected

was done a three year cure was obtained in 46 per cent and a five year cure in 42 per cent Of the patients who died later a large percentage succumbed to other diseases A W Fischer (7)

LIVER GALL BLADDER PANCREAS AND SPLEEN

Thorlakson P H T and Hay A W S Rupture of the Liver *Canadian M Ass J* 1929 xx 593

The authors call attention to the rarity of rupture of the liver stating that there were but 11 cases in 200 000 admissions over a period of twenty years Early surgical treatment is important For each hour s delay the chances of recovery are diminished by from 2 to 5 per cent After seventy two hours operation is usually contra indicated

The chief clinical features of rupture of the liver are due to free hæmorrhage into the peritoneal cavity The patient becomes pale and weak as the bleeding continues and later is restless and dyspnœic The pulse becomes more frequent and more compressible and the blood pressure falls There may or may not be shifting dullness in the abdomen Severe pain in the upper part of the abdomen on the right side tenderness and muscular rigidity are invariably present The temperature is subnormal for the first few hours and then gradually rises if the patient reacts at all favorably Blood examination at intervals shows a progressive decline in the red cells and hæmoglobin but an increase in the number of leucocytes

The condition is produced most commonly by a fall a blow on the upper part of the abdomen or crushing of the trunk between two hard bodies In the diagnosis it is necessary to determine first whether the patient is suffering from shock alone or shock with internal injuries Routine full blood examinations are therefore necessary The possibility of rupture of other viscera such as the stomach bladder, kidney and spleen must be considered

In a series of surgically treated cases which are reviewed the mortality was 37 5 per cent The chief factors responsible for the high rate were complicating injuries and the length of time that elapsed between the injury and the operation

In discussing the treatment of rupture of the liver the authors emphasize the importance of the preoperative period of observation For exposure of the liver they recommend a transverse incision Hæmorrhage is best controlled by packing or the use of the cautery

Harry W Fink M D

Paitre Associated Wounds of the Liver Stomach Pancreas Duodenojejunal Angle and Sigmoid from Revolver Bullets Laparotomy Cure (Plaies associées du foie de l estomac du pancréas de l angle duodéno jéjunal et de l S iliaque par balles de revolver laparotomie guérison) *Bull et mém Soc nat de chir* 1929 lv 502

A man was brought to the hospital eighteen hours after having been wounded twice by revolver bullets Although he had been vomiting incessantly his general condition was not unfavorable

Operation revealed a large quantity of blood in the peritoneal cavity a slight wound of the liver a penetrating wound of the stomach a transverse furrow of the pancreas and a double penetrating wound of the duodenojejunal angle and the sigmoid The intestines were hyperæmic but there was no exudate The wounds of the large intestine while punctiform allowed the escape of liquid and gas The wound of the pancreas was not sutured as it caused little loss of blood Following closure of the perforations of the stomach and intestines the abdomen was sutured in one layer without drainage Recovery was uneventful except for the development of a hernia Eventually the hernia was repaired

In the discussion of this case the author calls attention to the absence of peritonitis after the multiple intra abdominal wounds and delay of operation Opportunity was afforded to observe the rôle of the mucous membrane plug in the intestinal perforations The herniated mucosa offered little or no opposition to the escape of the intestinal contents In agreement with war experience with pancreatic wounds of the same type the injury of the pancreas produced no complications

Albert F De Groat M D

Lacaze H and Melnotte P Hepatic Amœbiasis and Its Treatment (L amibiase hépatique et son traitement) *R v de chir* Par 1928 xlvii 709

This report is based on a study of amœbiasis of the liver extending over a period of fourteen years during which time the authors performed 252 operations for the condition The authors fields of observation included Macedonia the Mediterranean coast of Africa the Ivory Coast and various points in Europe particularly Bordeaux where numbers of colonial troops are repatriated

Amœbiasis is no longer an exotic disease in France and fears are expressed that it will become firmly established in the country These fears the authors believe are groundless because amœbic infections flourish only where elementary hygiene is completely lacking The hepatic form will never be prevalent except where the liver receives additional insults such as are rarely experienced outside the tropics

The history of amœbic abscess of the liver goes back to the earliest times but among the first to recognize its connection with dysentery was Dutroulau a physician in the French navy The amœbæ were first demonstrated in a hepatic abscess by Kartulis in 1887 These observations applied only to the large tropical abscesses the form to which treatment essentially surgical was for a long time limited With the work of Rogers (1907–12) the clinical study broadened and with the introduction of emetine the treatment became essentially medical Today with recognition of the milder forms of hepatitis the treatment has become medico surgical

abdominal wall The pain and defense were most marked in the right iliac fossa The patient s countenance was anxious her temperature 39 degrees C and her pul e 128 *On rectal palpation* the pouch of Douglas was found tense fluctuating and bulging into the rectum

When the abdomen was opened a cloudy fluid containing fibrinous neomembranes in suspension flowed out The cæcum the walls of which were thick and infiltrated was brought outside the wound The appendix was short and turgescent and contained a large mass of fæces Appendectomy was performed A finger introduced into the wound to establish drainage penetrated the pouch of *Douglas breaking soft* adhesions and evacuated an purulent collection between the uterus and rectum A large drain surrounded by two tents was introduced to the bottom of the pouch of Douglas

At first recovery was normal but nine days after the operation the wound became painful and a hæmorrhage occurred from it The next morning *blood was found on the dressing but there had been* no further external hæmorrhage The patient was pale her pulse 130 and thready and her temperature 39 6 degrees C The abdomen was generally contracted The symptoms were those of peritoneal infection rather than those of acute anæmia

At operation the pouch of Douglas and the right iliac fossa were found filled with a mass of malodorous clots When the hæmatoma was cleared away there was a jet of bright red blood from an ulceration of the external iliac artery where it had been in *contact with the drain The artery was ligated above* and below the ulceration The peritoneal septicæmia continued and the patient died that night

The second case was that of a young girl who had a subacute attack of utero-adnexal infection after attempted abortion When she entered the hospital two weeks later a hot abscess was found in the right iliac fossa high up and apparently well encysted The abscess was incised and a drain placed in the cavity After a week of normal convalescence an abundant hæmorrhage of bright red blood occurred as *the result of the contact of the drain* with an artery Digital compression was used but the patient died on the way to the operating room

Viannay believes that infection of the arterial wall plays as important a rôle in such cases as the mechanical action of the drain To prevent the complication *Patel* and Murard incise appendicular abscesses early place the drains superficially and surround the drains with gauze PAGE

Tisserand G Two Hartmann Operations with Re Establishment of *the Continuity of the* Intestine *Performed* for Rectosigmoidal Cancer (Deux cas d opération de Hartmann pour cancer recto sigmoidien avec res auration de la co tinuité du tube digestif) *Bull et mém Soc nat de chir* 1929 lv 528

The usual Hartmann operation requires the establishment of a colo tomy, but the suggestion has been made that in some cases it might be possible to utilize the terminal segment of the gut and thus re establish the normal course of the intestinal contents Immediate anastomosis is ordinarily extremely difficult the author s single attempt proved fatal In two cases the following technique was successful

The tumor was first removed by the usual method of Hartmann A rubber tube with a diameter about that of the thumb and 30 cm long was inserted into *the proximal end of the sigmoid for a distance of* 10 cm and fixed by a continuous catgut suture The suture line was painted with tincture of iodine and an assistant drew the tube into the rectum by means of a long clamp introduced through the anus The sigmoid was invaginated into the rectum about 1 cm and sutured The tube was then further invaginated by traction and sutured a second time Iodoform gauze strips were placed at the sides of the anastomosis and brought out through the abdominal wound The pelvis was peritonized as accurately *as possible If the tube was not expelled* it was removed on the tenth day

Both of the author s patients upon whom *this* operation was performed were women In each case a preliminary supravaginal hysterectomy was *done* The results were excellent the bowel *functioning* normally and the patients being still well to date eighteen and twenty six months after the *operation.*

In the discussion of this article SCHWARTZ stated that the operation performed was not that *of Hartmann* but a much less radical procedure already *used in a few rare cases by Quenu* Lecene and TIXIER ALBERT F DE CROAT M D

Kuettner R Cancer of the Rectum and Its Surgical Treatment on the *Basis of 1 300* Cases (Der Mastdarmkrebs und seine chirurgische Behandlung auf Grund von 1 300 Faellen) *Med Klin* 1929 1 4

For the early diagnosis of cancer of the rectum a careful digital examination *is essential* The author reviews 480 radical operations for this condition *with 108 deaths a mortality of 22 5* per cent In the last seven years *the mortality* has been only 17 3 per cent Amputation of the rectum was done in 192 cases with 51 deaths a *mortality of* 56 5 per cent resection of the rectum *in 175 cases* with 34 deaths a mortality *of 19 4 per cent* invagination in 4 cases with 1 death a mortality of 25 per cent and resection with displacement *of the rectum* by Kuettner s method in 85 cases with 16 *deaths* a mortality of 18 8 per cent The abdominosacral operation was performed only in exceptional cases seven amputations were done with 2 deaths and 6 resections with 4 deaths The combined *procedure* has been abandoned by *Kuettner*

Of the patients operated upon radically 46 5 per *cent survived the operation* longer than *three* years and 32 per cent survived it longer than five years Recurrence was not observed later than *ten* years In the cases in which resection with displacement

Only a careful exploration of the liver will prevent an error in the diagnosis In some cases there may be a simple cachexia suggesting malignant disease

In another group of cases the local symptoms predominate When acute the hepatic symptoms may suggest the congestion of malaria suppurative hydatid cyst or cholecystitis

Chronic amœbic infection of the liver is easily confused with other diseases of this organ Sometimes a differential diagnosis seems impossible as even the therapeutic test with emetine fails to give clear results The leucocytosis may be suggestive

Gastric symptoms often predominate and loss of weight epigastric pain vomiting melæna and a subicteric tinge strongly suggest an ulcer or a cancer of the stomach The gastric form is usually associated with an abscess of the left lobe of the liver

An amœbic abscess may simulate acute or chronic appendicitis and may be recognized only at operation Again amœbic infection may cause a true appendicitis of great severity demanding early operation

Rupture of an amœbic abscess into the general peritoneal cavity produces the chain of symptoms associated with perforated gastric or typhoid ulcer ruptured pyosalpinx etc

It is universally agreed that emetine must be given in all cases In the non suppurative forms of amœbic hepatitis treatment with emetine is curative but when suppuration has occurred the pus must be dealt with according to established surgical principles

With regard to surgical treatment the authors state that the frequent difficulty of making an absolute diagnosis (negative punctures etc) justifies operation on the basis of the general aspects of the cases Multiple abscesses by their frequency demand an operation permitting careful exploration of the liver Emetine alone or combined with aspiration fails in the suppurative forms of the disease

The type of anæsthesia under which the operation is done is of little importance The incision should be large enough to expose the area of liver tenderness It may be thoracic abdominal or abdominothoracic When no adhesions are present pneumothorax can be reduced to the minimum by alternately cutting and suturing thus keeping the parietal pleura and diaphragm in contact Abscesses are simply opened drains then being inserted Curettage or lavage should never be employed When an abscess is very large it must be evacuated slowly If possible adhesions should be utilized to protect the general peritoneal cavity The authors make a practice of opening the peritoneum only at the lower angle of the incision and exploring with the finger If adhesions are present they close the peritoneum and open the abscess extraperitoneally through the adhesions

Occasionally the liver will be found simply congested In such cases the capsule should be incised to relieve the compression This procedure is followed by relief of the pain and a fall in the temperature Years ago Jaboulay noted the marked relief afforded by simple puncture of the liver but was unable to explain it

After successful medicosurgical treatment of amœbic abscess there is a strong tendency toward relapse and emetine must be administered over a long period In addition the patient must be sent to an uninfected region the diet closely supervised and the use of alcohol absolutely forbidden

General prophylaxis by the usual sanitary measures is impracticable In spite of all precautions persons living in countries where amœbiasis is endemic become infected Even if it were possible to eliminate all other sources of infection there would still remain dust which plays an important role in the spread of the disease The only prophylaxis consists in the early recognition of amœbic dysentery and its thorough treatment with emetine

The article ends with the histories of thirty cases and an extensive bibliography

ALBERT F DE GROAT M D

Paterni L Primary Carcinoma of the Liver with Metastasis in the Spleen (Carcinoma primario del fegato con metastasi splenica) *Policlin* Rome 1929 xxxvi sez med 125

The patient whose case is reported was a man sixty years of age who began to have symptoms only about forty days before his death He was in the hospital for only thirty days The chief symptom was diffuse and almost continuous pain over the right epigastrium and hypochondrium irradiating to the base of the thorax and the right shoulder This pain sometimes increased after eating and was particularly severe at night Occasionally vomiting occurred Soon after his admission to the hospital the patient began to have œdema of the legs and ankles and abdominal effusion developed and increased rapidly Puncture evacuated a clear fluid with a negative Rivalta reaction Most of the time the temperature was normal The urine was scanty and as the icterus increased it contained increasing amounts of bile pigment The spleen was never palpable The liver did not increase greatly in size The patient died in a condition of profound asthenia without terminal coma or hæmorrhage Autopsy revealed a nodular carcinoma of the liver without cirrhosis

The nodular form of primary carcinoma of the liver is the rarest type and almost always is associated with cirrhosis Accordingly the tumor in this case was very unusual The nodules were chiefly on the lower surface of the liver They were found not only on the two chief lobes but also on the quadrate lobe and the lobe of Spigelius They showed no tendency toward umbilication The tumor was of the form generally called a hepatoma The cells were large and had hyperchromic nuclei of various forms and sizes arranged much like the liver cells The tumor had very little stroma and many capillaries The metastasis in the spleen showed much the same picture except that the stroma was more abundant probably because of

The true frequency of liver involvement in relation to intestinal infections is unknown because many carriers of amœbæ are without symptoms However among 5 000 cases of dysentery the authors demonstrated liver involvement (by puncture) in 95 (1 9 per cent)

Larval forms of dysentery are found to be followed by amœbic abscess as frequently as is acute dysentery In fact the history of an acute attack is rather infrequent Acute dysentery may be followed by liver complications in a few days or after as long as thirty years Even if the intestinal infections that pass unrecognized are taken into consideration liver involvement cannot be considered frequent

Localization in the liver seems to demand predisposing conditions such as the fatigue of a campaign (in the Riff war and in 1917 many cases appeared in the same units) local damage to the liver by intestinal parasites debilitating disease bacillary dysentery etc

The amœbæ are generally believed to reach the liver through the portal circulation but as they have been demonstrated in the bile tract and the duodenum the biliary route must also be considered

The suppuration in the liver has been ascribed to secondary infection but the authors studies show that this is not essential

The hepatic lesions that precede the formation of an abscess are

1 A larval form of hepatitis manifested simply by digestive disorders The disease may not progress beyond this stage

2 A diffuse hepatitis that may become chronic and evolve toward an amœbic cirrhosis or multiple foci of suppuration At this stage the disease is amenable to medical treatment When suppuration has once occurred the lesions become surgical

In all of the suppurative forms liver tenderness is present and a characteristic pus is obtained on puncture The liver tenderness is usually very definitely localized and is revealed by palpation over the entire area of liver dullness Aspiration at the point of tenderness is a valuable procedure In the authors cases it has never been followed by a serious accident In general no puncture should be made below the costal margin At the moment that the needle is introduced the patient should hold his breath The pus may have a characteristic chocolate aspect or may be frankly bloody It contains lumps of disintegrating liver tissue The chocolate pus rarely contains amœbæ In the bloody or crushed gooseberry pus mobile amœbæ are numerous Encysted forms are never found

The symptoms of acute suppurative hepatitis are a high oscillating fever sweats chills and a rapid loss of weight The local symptoms include spontaneous pain over the liver and very often in the shoulder The liver dullness is increased in extent but fluctuation and œdema of the parietes are never observed except in the most advanced cases Rigidity of the abdominal wall is common and may lead to confusion of the condition with appendicitis Dullness a pleural rub, and distant breath sounds are rather constant and may center attention on the lungs Fluid when present in the pleural cavity never exceeds a few cubic centimeters On X ray examination deformity of the arch or general elevation of the diaphragm is occasionally observed The costodiaphragmatic angle opens poorly in more than half of the cases but there are never any signs of fluid The portion of the diaphragm overlying the abscess may be immobilized.

Laboratory study is of considerable importance The finding of amœbæ in the fæces is of the greatest value in clinching the diagnosis The blood shows a marked polymorphonuclear leucocytosis (20 000 to 25 000) absence of eosinophiles and secondary anæmia Because of the presence of other intestinal parasites the absence of eosinophiles is not constant

From observations made at operation the authors conclude that in all cases the lesion is nodular at first and the massive abscesses are formed by the coalescence of discrete areas of softening If the defenses are adequate the process is arrested in the initial stage and a chronic hepatitis results

In subacute suppurative hepatitis the fever is irregular and the anæmia and cachexia are very marked The patient has a potato tint The area of liver dullness may not be very great A pleural reaction giving roentgen signs is quite constant The leucocytosis is higher than in the acute form but falls if acute exacerbation develops

At operation the abscesses are found limited by a pyogenic membrane Amœbæ can be demonstrated in the wall of the abscess but rarely in the pus Adhesions are more in evidence and in many cases migration of the pus has occurred (pleurisy subdiaphragmatic abscess etc)

In chronic suppurative hepatitis the patient is ambulatory Fever is often absent and the general signs are limited to loss of weight anæmia and asthenia The liver is frequently of normal size and the local tenderness is slight A pleural reaction is constant and often dominates the clinical picture The leucocytosis may reach 50 000 with the polymorphonuclears relatively low (56 per cent) At operation the abscess is found to have a fibrous wall The pus may be inspissated or even calcified Migration of the pus occurs as in the other forms but the abscess has a strong tendency to open externally Many natives of Morocco present a cicatrix in the right hypochondrium which represents the point of discharge of a liver abscess

Cases of suppurative hepatitis present a variety of clinical aspects The acute form with marked general symptoms must be distinguished from typhoid fever malaria recurrent fever undulant fever endocarditis epidemic meningitis and yellow fever Meningeal symptoms are not rare The differentiation of these conditions is made by the usual special diagnostic procedures

The chronic cases with general symptoms may present the picture of tuberculosis with loss of weight night sweats a cough and pleural effusion

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greater resistance of the organ to invasion by the tumor Splenic metastasis of primary carcinoma of the liver is extremely rare

AUDREY G MORGAN M D

Martin, W The Spread of Bacteria from the Gall Bladder to the Liver *Ann Surg* 1929 xc 47

This article is based on the findings of examination of small pieces of the liver excised near the gall bladder bed at the time of operation in cases of well marked cholecystitis and cholelithiasis without obstruction of the common duct In twenty seven specimens all of which were taken within a few days after an acute attack an attempt was made to culture any organisms present by two methods One fragment of liver was allowed to autolyze in the presence of moisture while another was dropped into a tube containing Rosenow s medium After incubation for twenty four hours smears were obtained and aerobic and anaerobic cultures were made on blood agar and Huntoon s medium and dexterin broth These examinations were repeated at the end of forty eight hours and seventy two hours

In 77 per cent of the cases it was impossible to culture bacteria from the liver tissue In six cases bacteria were found in the fragment of liver examined but in three of these they were few in number and difficult to grow as if of low vitality In two smears of the autolyzed liver gram positive cocci probably enterococci were found Two others yielded gram negative bacilli of the colon group Of the three successful cultures one showed a gram positive diphtheroid bacillus another staphylococci and the third a growth of colon bacilli

WILBUR BAILEY M D

Pool E H Reconstruction of the Common Duct A New Procedure *Ann Surg* 1929 xc 132

In cases of stenosis of the common duct the common and hepatic ducts above the obstruction are enormously dilated forming a true bile reservoir the duodenum is usually high and close to the liver and the dilated duct above the structure The structures are buried and united in a mass of solid adhesions

In two cases of this character the author used a new technique instead of the usual extensive dissection of adhesions followed by anastomosis The duodenum was identified but not dissected free and in the first portion 1 in from the pylorus a transverse incision was made A small aspirating needle was then introduced into the upper wall of the duodenum through the incision and blood was obtained presumably from the portal vein The needle was then passed upward and slightly outward and bile was obtained In the case in which a successful result was obtained this opening was further enlarged by a grooved director followed by an artery clamp A small piece of catheter was fixed with a single catgut suture in the opening This was passed per rectum on the eighth day

In the future the author will use a tube with enlarged ends which would prevent it from working back into the bile reservoir or passing into the duodenum too quickly In his first case in which a smaller opening was made the anastomosis contracted but his second patient is now in good condition three months after the operation

WILBUR BAILEY M D

Bouet O A New Method of Obtaining Pancreatic Juice for Experimental Studies (Une nouvelle méthod pour se procurer du suc pancréatique par des recherches expérimentales) *Lyon chr* 1929 xxvi 28

Because of the difficulty of obtaining pancreatic juice under physiological conditions numerous questions concerning the digestive function of the pancreas remain unanswered To overcome the various disadvantages inherent in the methods hitherto employed the author has devised a cannula through which in experiments on dogs the secretion may be collected without disturbing the course of digestion

The cannula is a large metal tube which is planted in the duodenum opposite the distal pancreatic duct (the principal one in dogs) Each end of the tube is fitted with a balloon similar to a pneumatic tire By inflation of the balloons the segment of the duodenum opposite the duct is isolated The chyme then passes unimpeded through the tube and the secretions collect about it and are drawn off to the exterior by another tube attached at right angles to the first one The apparatus has the general appearance of a large T tube It is shown in illustrations

ALBERT F DE GROAT M D

Paître and Courboulès Complete Traumatic Rupture of the Isthmus of the Pancreas Followed by a Pseudocyst and a Fistula (Rupture traumatique totale de l isthme du pancréas pseudokyste et fistula pancréatique consécutif) *Bull et mém Soc nat de chr* 1929 lv 494

The case reported was that of a soldier who was crushed between two tanks When the patient was brought to the hospital he was in shock but there were no signs indicating the necessity for operation He complained of pain in the lumbar portion of the spine and palpation revealed abdominal tenderness which was most marked in the epigastrium Although the temperature rose to 102 2 degrees F on the third day and remained at that level until the sixth day the general condition gradually improved At the end of a week a smooth mass appeared in the epigastrium and gradually increased in size X ray examination showed the stomach pressed forward and upward against the anterior abdominal wall Laparotomy was performed on the fifteenth day following a diagnosis of hematoma of the lesser peritoneal cavity or pseudo cyst of the pancreas. The patient was then in excellent condition but had lost considerable weight A median incision above the umbilicus disclosed a mass of gelatinous tissue composed of the peritoneum subperitoneal fat and great omentum Aspiration revealed beneath this a

collection of clear fluid Because of the alteration of the tissues the way could not be found through the gastrocolic ligament and a breach was made through the lesser omentum The pancreas was found within a large pouch which was opened It was completely divided through the body with exposure of the aorta A Mikulicz drain was placed in the pouch

The postoperative course was uneventful The drain was removed gradually from the eighth to the twelfth day and replaced by a No 24 Nelaton catheter The wound healed completely in twenty five days and at no time did the borders show signs of autodigestion For a time there was a discharge of a clear sterile fluid This fluid was collected and studied

MAISONNET in presenting this case report before the Society commented on pancreatic injuries and their sequelæ as follows

To be unassociated with other abdominal lesions a rupture of the pancreas must be produced by a very localized blow The severity of the fistula if one develops is not always in proportion to the severity of the pancreatic injury When the rupture is complete the duct of Wirsung is severed A persistent fistula may therefore be expected but as shown by the case herewith reported does not always occur

The formation of a cyst demands a certain period of time and must necessarily be the result of the rupture of a duct of some size In injuries caused by projectiles there is seldom an escape of pancreatic fluid because the ducts are not apt to be seriously involved A rapid loss of weight in these cases is characteristic even in the absence of glycosuria

Suture of the pancreas is possible only when the operation is performed immediately Later drainage of the cyst alone is feasible In about half of the cases in which only drainage of the cyst is done a fistula develops but it usually closes spontaneously When it persists a cure may be obtained by anastomosing the tract with the stomach

The maximum twenty four hour output of pancreatic juice may reach 800 c cm The amount is generally greater after an immediate operation than after the drainage of a cyst

The rhythm of the secretion varies with the location and the nature of the lesion In one case the quantity increased after meals and ceased during sleep In another case there was no variation

The pancreatic juice has been found acid at one time and alkaline at another It is believed that the acidity is due to a backflow of duodenal contents into Wirsung s duct This view is based on the fact that the secretion sometimes has a green tint and possesses proteolytic power

ALBERT F DE GROAT M D

Seelig and Gohrbandt Surgical Treatment of Diabetes (Chirurgische Behandlung der Zuckerkrankheit) *53 Tag d deutsch Ges f Chir* Berlin 1929

Seelig reported experimental studies on dogs in which it was found that ligation of Stenson s ducts led to changes in the blood sugar level Experimental diabetes produced by total extirpation of the pancreas and Sandmeyer diabetes were not affected by the ligation In the several clinical cases of diabetes it was possible by ligating the parotid ducts to reduce the required insulin dosage and to keep the patient sugar free for some time In other cases total failure was recorded The purpose of Seelig s report is not to advocate ligation of Stenson s ducts as a general procedure in diabetes but to stimulate interest in the reciprocal action of the parotid and pancreas

Gohrbandt described the technique of the operation He cuts around the site of opening of the duct into the mouth draws the duct forward and then resects and ligates it The operation is followed by swelling of the face but this subsides in a few days Gohrbandt has performed it in eighteen cases In twelve permanent obstruction of the ducts resulted In six the ducts opened up again Gohrbandt considers it possible that accessory ducts were present and began to function

In the discussion of this report SCHOENBAUER (Vienna) called attention to the fact that diabetes induced artificially in the dog can be cured by adrenalectomy He stated that in his opinion the operation acts by excluding the sympathetic nerve trunks The most important sympathetic nerve trunks coming into consideration run in the hepatoduodenal ligament Schoenbauer found that after division of this ligament the blood sugar level which had risen to 180 mgm per 100 c cm fell to 80 c cm Later it rose to 120 mgm The operation influenced also the course of artificial diabetes but its effect persisted for only a short time STETTINER (Z)

Newton A A Case of Successful End to End Suture of the Pancreas *Surg Gynec & Obst* 1929 xlviii 808

The case reported was that of a farmer thirty years of age who sustained an injury of the upper part of the abdomen by being thrust violently against a fence by a pony Operation for ruptured abdominal viscus was performed twenty four hours later When the lesser sac was opened complete division of the pancreas through the neck was discovered The lesser sac contained blood and there were two patches of fat necrosis near the foramen of Winslow Repair was effected by suturing a strip of omentum 2 in wide to the posterior edge of the gland and encircling the tear with it Two sutures were placed in the vicinity of the duct which could not be identified and interrupted chromic sutures were placed anteriorly and posteriorly to bring the resected ends of the pancreas together The strip of omentum was then brought anteriorly and sutured over the anastomosis

Ten days later the lesser sac filled with fluid A month after the operation this cyst was drained of 2 pts of clear fluid the walls of the cyst were sutured to the parietal peritoneum and a drainage tube was inserted Palpation revealed good union at the site of anastomosis of the pancreas Convalescence was

uneventful and the patient has had no symptoms of pancreatic dysfunction since the operation

STANLEY H MENTZER M D

MISCELLANEOUS

Coffey R C The Quarantine in Abdominal Surgery *Am J Surg* 1929 vi 593

By the phrase quarantine in abdominal surgery the author means the exclusion of a portion of the abdominal cavity in order to decrease peritoneal absorption leading to morbidity His quarantine is a modification of that first advocated by Mikulicz Coffey attributes the present day tendency to discontinue drainage of the peritoneal cavity to the formation of adhesions resulting from the contact of gauze drains with the intestines He believes that except in rare emergencies gauze drainage should *never come in contact with the intestine or omentum*

Coffey's drain is constructed of twelve wicks of gauze surrounded by four thicknesses of rubber tissue The lower end is so arranged that the wicks are spread out in the shape of a fan and surround the area to be quarantined. The rubber tissue is sterilized first in a 1 1 000 solution of bichloride of mercury for twelve hours and then in the autoclave or by boiling The wicks are removed one at a time one week after their introduction The author prefers to remove them under light nitrous oxide anæsthesia A week after the removal of the wicks the sheets of rubber tissue are removed easily

The general indications for the use of quarantine in abdominal surgery are (1) infected organs which tend to produce peritonitis by contact or discharge but are not to be removed (2) intra abdominal abscess so located that the wall of the abscess is exposed to the intra abdominal viscera and on the establishment of drainage the discharge must be conducted across the *free peritoneal cavity* (3) an open viscus which because of the presence of infection or some other factor cannot be closed and (4) large denuded bleeding or infected areas which cannot be covered with peritoneum

Specific indications are

1 Pelvic accumulations of pus

2 Septic infection following miscarriages and criminal abortions

3 Acute gonorrhœal salpingitis in the early stages

4 Extensive pelvic adhesions which must be kept from becoming adherent to the pelvic organs

5 Postoperative ileus in which the pelvic organs have become adherent to the intestine

6 Appendiceal abscess which must be drained through the general peritoneal cavity

7 *A gangrenous gall bladder*

8 Operations on the common duct in cases in which there is pus in the field or in the duct

9 Cases in which a septic gall bladder has been removed and those in which measures must be taken to prevent the reformation of adhesions around the gall bladder bed

10 Acute pancreatitis and rupture of the pancreas

11 Case in which the intestine are delivered through the abdomen to be resected according to the technique of the Mikulicz operation

12 Cases in which the intestine must be protected from radium placed in the abdomen for the treatment of inoperable carcinoma

13 Cases in which resection of the colon is done as outlined by the author

14 Cases in which the ureters are transplanted into the rectum

ALTON OCHSNER M D

GYNECOLOGY

UTERUS

Smith G Van S Graves W P and Pemberton F A Procidentia A Study of 683 Cases Treated between 1875 and 1928 at the Free Hospital for Women Brookline Massachusetts *Am J Obst & Gynec* 1929 xvii 669

Six hundred and eighty three cases of marked uterine prolapse have been studied from many angles with special regard to the type of operative treatment yielding the best end results

The family histories of the patients of this series were not remarkable the incidence of tuberculosis being 7 6 per cent and that of malignant disease 6 7 per cent The patients own histories covered a wide range of infectious diseases and operations of which a complete summary is not presented A history of vaginal repair operation was given by 9 9 per cent of the women a history of operation for suspension of the uterus by 3 3 per cent and a history of previous operation for procidentia (not at this clinic) by 2 6 per cent

Twenty six patients had never been pregnant Of these nineteen were unmarried The average number of children borne by the married women was 3 92

Symptoms of procidentia did not begin until after the menopause in 27 3 per cent Of the others 20 0 per cent had some menstrual abnormality but in no instance was this a major symptom

Forty five and three tenths of the patients had had normal deliveries and 54 7 per cent had had from 1 to 9 instrumental deliveries Seven patients had had 1 breech delivery and 4 had given birth to twins Only 2 gave a history of toxæmia and only 1 a history of placenta prævia In 152 cases (23 2 per cent) the symptoms of procidentia began from two weeks to forty five years after the first labor In 48 per cent they began from one month to three years after the preceding labor in 16 6 per cent from three to ten years later and in 35 per cent from ten to forty five years later

Functional incontinence of urine usually not marked was complained of by 31 3 per cent of patients

That procidentia does not cause serious discomfort is indicated by the fact that 72 5 per cent of the patients had had symptoms longer than two years and 41 2 per cent had tolerated the condition for from five to thirty eight years before seeking treatment

The procidentia was complete in 14 6 per cent of cases Eighty patients (11 7 per cent) received no operative treatment

In cases in which the incomplete plastic operation and abdominal suspension were performed an anatomical cure was obtained in about 70 per cent and a symptomatic cure in about 75 per cent Of those in which the complete plastic operation and abdominal suspension were performed an anatomical cure was obtained in about 80 per cent and a symptomatic cure in about 84 per cent When complete operations were performed there was no marked difference in the results whether a simple Olshausen suspension a ventrofixation a simple supravaginal hysterectomy or a hysterectomy with fixation of the cervical stump was done but hysterectomy with cervical stump suspension seemed to be the best procedure Complete recurrences developed in from 3 to 6 per cent of the cases and partial recurrences in about 15 per cent Of the cases in which 2 3 or 4 operations were performed a final cure was obtained in 69 2 per cent

The operative mortality was 2 28 per cent The patients who died were on the average eight to ten years older than the series as a whole

Despite apparently predisposing factors only 1 patient had a carcinoma of the cervix Nine patients in all (1 31 per cent) are known to have had malignant disease Of these only 3 had malignant pelvic disease Good pelvic drainage with absence of retained chemically changed irritating secretions seems to be the most plausible explanation for the low incidence of cancer among these women of the cancer age Gross chronic pelvic inflammation was found in only 1 57 per cent of the 572 patients who had an abdominal operation Chronic salpingitis was diagnosed microscopically in 18 1 per cent of the cases In no instance was tuberculous salpingitis or salpingitis isthmica nodosa discovered Benign ovarian tumors were found in 33 patients Fourteen of the women became pregnant from 1 to 3 times after the operation Twelve of the pregnancies resulted in the birth of an infant at term Three ended in miscarriage and 4 in abortion Pregnancy after operation resulted in complete recurrences in 58 3 per cent Two women underwent cæsarean section with a successful outcome

E L Cornell, M D

Shaw W Irregular Uterine Hæmorrhage *J Obst & Gynæc Brit Emp* 1929 xxxvi 1

Two hundred cases of irregular uterine hæmorrhage of the type usually classified with cases of chronic endometritis chronic metritis fibrosis uteri delayed subinvolution menopausal hæmorrhage or climacteric bleeding were studied histologically to determine a basis for an etiological classification This necessitated consideration of the work of Hitschman and Adler on the normal cyclic changes of the endometrium Schroeder s description of the relationship between the ovarian and uterine cyclic

changes Shaw s description of the changes in metritis and of Goodall s description of the changes of the blood vessels in involution

The findings indicate that only a few cases of irregular uterine hæmorrhage can be attributed to infections of the endometrium The diagnosis of such infections is suggested by the clinical history and the physical examination and is confirmed by examination of the curettings Acute endometritis is commonly found after abortions and delivery As it usually heals spontaneously chronic endometritis is relatively rare In the series of cases reviewed infiltration of plasma cells and the other chronic changes of inflammation described by Schroeder were found in only 13 (6 5 per cent) The term chronic endometritis ' should be limited to cases with definite clinical or histological evidence of an infection of the endometrium The majority of irregular uterine hæmorrhages have no relation whatsoever to infection of the endometrium

Apart from gross infection of the pelvic organs severe adnexal inflammations puerperal infections and degenerated malignant growths of the uterus chronic inflammation of the myometrium is extremely rare Irregular uterine hæmorrhage in cases in which such pathological conditions can be excluded should not be attributed to a chronic inflammation of the myometrium The term chronic metritis should not be employed unless there is strong clinical evidence of these inflammatory lesions

On the basis of Goodall s report on the involution changes in the puerperal uterus irregular uterine hæmorrhages are often attributed to subinvolution of the uterine vessels but a repetition of Goodall s work has led to an explanation of the involution changes in the uterine vessels which differs in almost every respect from that of Goodall There is no evidence of the growth of a new vessel within the lumen of the parent vessel in the process of involution The involution of the arteries of the puerperal uterus occurs through granular atrophy of the muscle wall in which the caliber of the lumen of the vessel is reduced by means of a proliferation of the subendothelial tissues The caliber of the veins is reduced by a hyaline degeneration of the media which swells and wrinkles As involution of the vessels proceeds the hyaline tissue becomes absorbed The lumina of the veins are reduced also by swelling of the subendothelial tissue

Increase of elastic tissue is a physiological process resulting from pregnancy This tissue is deposited around the vessels particularly the veins in the media and internal elastic lamina of the arteries and between the muscle bundles of the myometrium There is no reason to believe that the deposit of elastic tissue is in any way determined by subinvolution changes in the uterus This investigation suggests that during subinvolution the deposit of elastic tissue is retarded

It can readily be shown that the amount of elastic tissue in the uterus apart from the few minor alterations with age depends solely on the parity of the patient and is independent of local conditions in the pelvis A large amount of elastic tissue has been demonstrated in women who have suffered from no menstrual disturbances whatever Therefore irregular uterine hæmorrhage is in no way determined by the amount of elastic tissue present in the uterus and no association between subinvolution and irregular hæmorrhage has been found

After the menopause atrophy of the muscle cells of the myometrium occurs the proportion of fibrous tissue then becoming larger than in the child bearing age As the result of the deposit of elastic and connective tissue the uteri of women who have borne a large number of children are firmer than the uteri of nulliparæ No evidence has been found of the existence in menstruating women of a condition in which the muscle cells of the uterus are replaced by fibrous tissue Accordingly it is maintained that irregular uterine hæmorrhage should not be attributed either to subinvolution or a fibrous state of the myometrium

In a large number of the cases of irregular uterine hæmorrhage reviewed ovarian disturbances were present

The most interesting group of cases were those of the condition described by Schroeder as metropathia hæmorrhagica In this disease which should be regarded as a clinical entity the endometrium is thickened and in parts hyperplastic Some of the glands are cystically dilated and there are areas of necrosis in the superficial and middle layers These endometrial peculiarities are constantly associated with a disturbance of ovarian function which inhibits ovulation or the full development of the corpus luteum The follicle affected becomes cystic and persists in the ovary The continuous vaginal hæmorrhage occurring in this disease is produced by the necrosis of the superficial layers of the endometrium This condition was found in 53 (approximately 2, per cent) of the 200 cases reviewed

The second large group into which cases of irregular hæmorrhage can be divided consists of those with a history of a reduced menstrual cycle and excessive hæmorrhage during menstruation In these cases ovulation occurs more frequently than normally Other ovarian disturbances may be demonstrated but the uterus shows no abnormality except hyperæmia and œdema of the endometrium This condition was found in 72 (about 36 per cent) of the cases reviewed

It was possible to group together also other cases of irregular uterine hæmorrhage from a consideration of the symptoms present In the majority of these the disturbance was found to have an ovarian basis

This study showed that in the majority of cases of irregular uterine hæmorrhage the bleeding cannot be attributed to inflammatory lesions of the endometrium or myometrium and that apart from occasional cases of infective endometritis such bleeding is related to an ovarian disturbance The term

metropathia' is suggested for these cases The various clinical types may be designated by terms indicating the character of the symptoms This method of classification has much in its favor from the clinical viewpoint despite the possibility of over lapping It is mainly for this reason that the neutral term metropathia is advocated despite the fact that the major etiological factor is ovarian

SAMUEL J FOGELSON M D

Keene F E and Block F B The Treatment of Uterine Fibromyomata *Am J Obst & Gynec* 1929 xvii 848

The authors report upon 259 cases of uterine fibroma treated in the period from 1925 to 1927 One hundred and sixty one (62 1 per cent) were operated upon and 98 (37 9 per cent) were treated by irradia tion

From their survey of this series and a previous series of cases they draw the following conclusions

1 The mortality in the treatment of uterine myomata uncomplicated by other pelvic disease should be below 1 per cent whether the treatment is operation or irradiation

2 In the treatment of uterine myomata compli cated by other pelvic lesions the mortality will de pend largely on the type of the complicating disease but in any event will be materially higher than in uncomplicated cases

3 Irradiation is the treatment of choice in about one third of all cases of uterine myomata requiring treatment but a careful selection of the cases is important When there is doubt it is best to oper ate

4 In the operative treatment supravaginal hysterectomy is the operation of choice in the large majority of cases Abdominal and vaginal myo mectomy are of value in selected cases but pan hysterectomy is indicated only occasionally

5 Ovarian conservation is always to be practiced when healthy ovarian tissue can be left without interference with its blood supply

6 Bleeding will be relieved in practically all cases operated upon and in 95 per cent of the cases irra diated but leucorrhœa will persist in about one third of the cases after either method of treatment

7 Almost half of the myomata subjected to operation are complicated by other pelvic lesions

In the discussion of this report RICHARDS p esented the results of an investigation of 196 cases of myoma One hundred and twenty six (64 per cent) were treated surgically 44 (22 per cent) by irradiation and 10 (5 per cent) by irradiation and surgery Sixteen (8 per cent) received no treatment Supravaginal hysteromyomectomy was done in 110 cases (87 per cent) complete hysteromyomectomy in 1 (0 07 per cent) vaginal myomectomy in 8 (6 per cent) and abdominal myomectomy in 7 (5 per cent) Concomitant adnexal disease required removal of both ovaries in 67 cases (53 per cent) One ovary was removed in 35 cases (27 per cent) Both ovaries were conserved in 16 cases (11 per cent) The sur gical mortality was 3 96 per cent There was no mortality from radium treatment

E L CORNELL M D

Polak J O Fifteen Years with Radium in the Treatment of Fibroids Non Malignant Bleed ing and Dysmenorrhœa *Am J Surg* 1929 vi 648

The location of a fibromyoma and its relation to the uterine circulation determine its evolution Fi broids are usually accompanied by bleeding They are in but not of the uterine musculature They may undergo malignant change Among 1 860 tumors re viewed by Fraenkel 46 sarcomatous lesions were found Fibroid tumors rarely develop in women with a perfect endocrine balance Those lying close to the endometrium where the circulation is reduced are apt to cause metrorrhagia whereas intramural tu mors which grow slowly and often undergo atrophy at the menopause are more apt to produce menstrual bleeding and at some period in their growth are ame nable to radium and X ray treatment Menstrual hæmorrhage occurs only when the continuity of the endometrium is maintained When tissue necrosis occurs in overstretched endometrium intermenstrual bleeding appears Before radium or the X ray is used the exact location and condition of the tumor must be determined Radium will control the hæmorrhage of uterine myomata and in a large percentage of the cases will reduce the size of the tumor if it is not pe dunculated or subserous Nevertheless operation is still the procedure of choice for most myomata The disadvantages of radium irradiation are stated as follows

1 Nodules outside of the uterus may remain to give trouble later

2 Malignancy may be overlooked Unless a diag nostic curettage is done it is not permissible to use radium in submucous growths

3 Fifty four per cent of all fibroids are associated with tubo ovarian disease and while the local results may be excellent the associated lesions keep the pa tient sick

4 A dosage sufficient to stop hæmorrhage and shrink the tumor will impair the reproductive func tions of young women

5 Fibroids causing symptoms from pressure yield too slowly to radium

6 An inflammatory reaction is excited in old in flammatory adnexal lesions when radium is used

7 Radium adds to whatever necrosis is already present

The advantages of radium in the treatment of fi broid tumors are summarized as follows

1 There is no operative mortality

If radium fails operation is always possible

3 Menopausal symptoms are less marked

4 Absolute stoppage of hæmorrhage may be ex pected in all intramural tumors and shrinkage of the mass in 65 per cent of the cases

5 Radium irradiation is the procedure of choice when surgery is contra indicated

The author reviews 206 cases of fibroids treated with radium Gamma rays from radium element were applied to the interior of the uterus in dosages ranging from 1 800 to 2 000 mgm hrs In 200 cases the irradiation stopped the bleeding permanently In 136 there was marked shrinking of the tumor and in 70 the fibroid disappeared completely In 6 cases operation was necessary subsequently

Abnormal bleeding in uterine insufficiency or fibrosis uteri is associated with more or less constant pathological changes characterized by a relative increase in connective tissue over musculature Such bleeding is common in subinvolution and in women approaching the menopause In 260 cases of this type radium therapy never failed to check the hæmorrhages In 234 cases the uterus atrophied and symptoms of the menopause appeared

Bleeding in young women is almost always due to endometrial hyperplasia One intra uterine radium application of from 200 to 300 mgm hrs gave satisfactory results in 30 of 31 cases but 1 patient required a second application Since the treatment 6 of the patients have become pregnant and 3 have been delivered of normal children

Primary or intrinsic dysmenorrhœa is best treated by gradual dilatation of the cervix and mild irradiation averaging 200 mgm hrs In the selection of the cases extra uterine factors must be ruled out Of 36 women so treated all were completely relieved Nine have become pregnant since the treatment and 6 have been delivered of normal children

At the menopause bleeding should always be viewed with suspicion even menorrhagia demands investigation Routine curettage and microscopic examination of the specimen may reveal a submucous myoma a polyp retained decidual tissue or malignancy Of 96 cases a malignant adenoma was found in 3 a fibroid in 33 a polyp in 20 and an adenoma in 18 Operation was performed in 7 Of the 94 patients who have been followed 87 have an atrophied uterus The 7 others had a hysterectomy Cervical stricture occurred in 12 cases as a result of irradiation at the internal os with subsequent scar tissue contraction and faulty uterine drainage In most cases of this condition occasional dilatation gives relief

Summing up the author states that accurate diagnosis must precede radiation Neurotics should not be treated with radium When other intra abdominal lesions requiring surgery are present it is wiser to employ surgery only Very rapidly growing lesions degenerating tumors and those causing pressure should be operated upon Operation is indicated also in the presence of pelvic inflammatory lesions and large pelvic tumors Menorrhagia and dysmenorrhœa in young women have been treated successfully with radium For uterine myomata during the child bearing period surgery is preferable Extremely anæmic women are poor radium risks In benign gynecological conditions radium dosage should be kept at the minimum

A. James Larkin M D

Strachan G I Contra Indications to Irradiation in Carcinoma of the Cervix *Proc Roy Soc Med* Lond, 1929 xxii 1310

The author deplores the quite general belief that all cases of carcinoma of the cervix which have advanced beyond the operative stage can be treated with radium He summarizes the contra indications to radium treatment as follows

1 An extreme degree of general emaciation and cachexia

2 Extreme anæmia—a red cell count of less than 3 000 000 or a hæmoglobin value below 40

3 Extensions and metastases of the growth resulting in hydronephrosis or pyonephrosis extensions to the bladder and rectum and the presence of a fistula to the bladder or rectum

4 The presence of an inflammatory pelvic lesion sloughing of the growth itself salpingitis pyosalpinx and pelvic abscess

5 Cases in which the whole pelvis is extensively infiltrated by the growth

6 Impaired metabolism indicated by retention of nitrogenous waste products

The contra indications may be temporary such as inflammatory lesions which may be cleared up or permanent such as ureter involvement or extension to the bladdder or rectum.

Charles F DuBois M.D

ADNEXAL AND PERIUTERINE CONDITIONS

Sabadini L Rupture of a Pyosalpinx Into the General Peritoneal Cavity Treatment by Simple Laparotomy and the Use of a Mikulicz Drain (Des ruptures de pyosalpinx en péritoine libre et specialement de leur traitement par laparotomie simple et application d un Mikulicz) *Rev de chir Par* 1928 xlvii 629

Knowledge of the rupture of tubal abscesses dates from the observations of Tait (1868–69) However the number of cases reported is rather small—100 cases up to 1924 and about 50 cases since then Of 61 cases of acute peritonitis reported by Lenormant, the condition originated in a ruptured tube in only 5

Rupture of a pyosalpinx may result from trauma to a quiescent pouch or necrosis and perforation of the tube wall from a virulent infection Among the forms of traumatism the most important are gynecological examination and treatment

The perforation is usually single and located in the ampullary portion or fimbriated extremity of the tube Omental or intestinal adhesions are seldom present The wall of the tube about the perforation is necrotic When the pus is evacuated into the peritoneal cavity the tube becomes flaccid

The bacterial content of the pus is of great importance but has seldom been determined Of 9 cases reported by Huet the exudate was sterile in 2 and of 21 cases reported by Lubke it was sterile in 5 Colon bacilli were found in 8 of the 31 cases streptococci in 5 gonococci in 4 staphylococci in 2 a mixture of tubercle bacilli streptococci and colon bacilli

in 1 and a mixture of typhoid bacilli and an unidentified diplococcus in 1 Colon bacillus infection seemed the most serious causing death in 5 of the 8 cases in which it was present Streptococcus infection caused 3 deaths in 5 cases Infections with tubercle bacilli gonococci and staphylococci are usually benign

The symptoms of ruptured pyosalpinx are grave comparable to those of free perforations of other viscera Sometimes the perforation occurs in the course of acute salpingitis or during an exacerbation of chronic salpingitis Again the symptoms may appear after a pelvic examination or other traumatism In any case the patient is one in whom tubal lesions have already been recognized The symptoms not infrequently appear some days after the traumatism

The classical picture of an acute generalized peritonitis is presented Pelvic examination may be negative but if the patient has been under observation a decrease in the tension of a tubal mass or disappearance of the mass is noted

In the differential diagnosis general peritonitis due to rupture of the tube and pelvic peritonitis due to a very acute salpingitis must be distinguished as the treatment in the two conditions is different The latter will be recognized from the localization of the rigidity and pain in the lower abdomen and the more mild character of the general symptoms

When the tubal lesion is unilateral a rupture may very closely simulate appendicitis

The prognosis of rupture of a pyosalpinx is very grave Without operation the condition is almost invariably fatal When operation is performed within twelve hours the mortality ranges from 10 per cent (Huet) to 27 per cent (Lubke) whereas when it is performed within twenty four hours the mortality ranges from 13 per cent (Huet) to 66 per cent (Lubke)

Laparotomy and drainage is the universally accepted method of treating the peritoneal cavity but there is a divergence of opinion as to the method of dealing with the tubes Simple drainage salpingectomy and hysterectomy have been variously practiced The general principle has been the removal of the source of the trouble—treatment of the tubal lesion similar to that of an inflamed appendix This comparison the author regards unfortunate because the type of infection and the anatomy involved are very different The appendiceal infection is more virulent and is continually renewed by the intestinal contents while the tubal infection is relatively benign and has a marked natural tendency to regress Moreover the removal of the tubes and ovaries is attended by undesirable sequelæ and contrary to the older ideas the adnexa are able to recover from very extensive lesions For these reasons the tendency is toward greater conservatism

The conditions present following the rupture of a pyosalpinx greatly increase the gravity of salpingectomy and hysterectomy and the usual methods of isolating the general peritoneal cavity leave much to be desired The author urges simple laparotomy removal of the exudate thorough evacuation of the tube swabbing of the peritoneal surface with ether and the use of anti gangrene serum and a Mikulicz drain He reports 2 cases treated in this manner In 1 the operation was performed thirty hours after the rupture In both cases uneventful recovery resulted When one of the patients was seen eight months later there had been no recurrence of the pelvic inflammation ALBERT F DE GROAT M D

Dodds E C and Dickens F The Hormones of the Female Reproductive Cycle *J Obst & Gynæc Brit Emp* 1929 xxxvi 92

During the prepuberal period the internal secretion of the anterior lobe of the pituitary is being utilized for general growth With the advent of puberty and the corresponding decrease in the rate of growth quantities of the anterior lobe hormone are set free for the promotion of ovarian development The ovary increases in size under the pituitary stimulus and begins to secrete the œstrus producing hormone This hormone is responsible for the onset of puberty as shown first by external signs such as development of the mammary glands and second by internal changes such as an increase in size of the uterus and in the lower animals the appearance of the first œstral cycle

It is to be presumed that in the human female the phenomena are similar except of course that the œstrus characteristic of the lower animals does not occur In the lower animals the uterine and vaginal cycles of di œstrus pro œstrus and metœstrus can be brought about after ovariectomy by the administration of the œstrus producing hormone derived from the ovary Therefore it may be concluded that this substance and the ovary in the intact animal are responsible for these functions In the human female little direct evidence on this point has been obtained but in the macaque whose cycle closely resembles that occurring in the human female the administration of the œstrus producing hormone is followed by menstruation The menstruation so produced however is scanty as compared with normal menstruation

Both in the lower animals and in the human female another cycle is also occurring namely the cycle of ovulation In the lower animals rupture of the follicle and discharge of the ovum occurs at about the same time as œstrus and is followed by the production of a corpus luteum Since œstrus can be induced in the absence of a corpus luteum the latter cannot be essential at this stage of the phenomenon On the other hand work on the placentoma reaction has shown that the corpus luteum is essential for sensitization of the uterus The fertilized ovum does not provide the stimulus If the ovum is not fertilized it degenerates If the findings in the macaque apply to the human subject it appears that menstruation can occur in the absence of ovulation and therefore in the absence of the corpus luteum This suggests that the stimulus to menstruation is provided by the œstrus hormone derived from the ovary but the flow so produced is not so great as when ovulation occurs

The authors state that in this article their purpose has been to correlate the main facts upon which the majority of workers are agreed They wish to emphasize that much of the confusion and contradictory evidence of the earlier workers is giving place to a more orderly understanding based very largely on a study of the cycle in the monkey and the preparation of potent extracts by means of which it is possible to produce such changes as puberty œstrus the formation of corpora lutea and placentoma in the lower animals at will CARL H DAVIS M D

Sampson J A Infected Endometrial Cysts of the Ovaries *Am J Obst & Gyne* 1929 xvii 1

The author reports three cases of infected endometrial cysts of the ovaries

In the first case the cysts were present in both ovaries They were infected with a gram negative bacillus having many of the cultural features of the paratyphoid group of bacilli Similar organisms were obtained from the urine The bacteria apparently reached the cysts through the blood stream The source of the infection was not ascertained

Also in the second case the cysts were present in both ovaries Cultures failed to show any growth but a gram positive coccus occurring singly in pairs and in short chains was found in smears from the contents of the cysts as well as in sections stained by the Gram Weigert method The abdominal wound became infected with a similar organism which also failed to grow in culture media As in the first case the bacteria apparently reached the cysts through the blood stream The primary source of the infection was not ascertained

In the third case there was a large endometrial cyst of the left ovary filled with a foul smelling purulent bloody fluid and fused with the sigmoid Cultures and smears were not made Gram negative bacilli were found in the purulent exudate of stained sections of the cyst wall Circumstantial evidence indicated that the cyst became infected from the sigmoid but the induration present in the portion of the wall of the intestine fused with that of the cyst might have been due to the extensive endometriosis present in the posterior cul de sac This cyst also might have been infected through the blood stream E L CORNELL M D

Burg E A Case of So Called Granulosa Cell Tumor of the Ovary (Fall von sogenannter Granulosazellengeschwulst des Eierstockes) *Acta Univ Sci hungar elisabeth* 1929 i 520

The case reported was that of a primipara twenty years of age who had not menstruated for ten months and during the last four months had noticed a considerable increase in the size of her abdomen

At exploratory laparotomy 5 liters of yellow clear fluid were removed and the left ovary was extirpated because of a reddish proliferation of tissue the size of a bean There was no peritonitis but the mesentery showed small yellowish nodules

On microscopic examination the small tumor of the ovary was found to be a benign granulosa-cell tumor The small nodules in the mesentery consisted merely of a fatty tissue rich in vascular and connective tissue elements

When the patient was seen again three months after the laparotomy there were no signs of a recurrence of the condition L SCHWARZ (G)

Neumann H O Tubular Adenoma of the Testicular Ovotestis with a Report on the Similarly Diagnosed Case Observed by Pick and a Brief Discussion of the Hilus Interstitial Cells of A Kohn (Das Adenoma tubulare testiculare Ovotestis mit einem Bericht ueber den gleichnamigen von Pick beobachteten Fall sowie einer kurzen Bemerkung zu den Hiluszwischenzellen von A Kohn) *Arch f path Anat* 1928 ccixx 501

The case reported by the author was that of a sterile married woman thirty years of age Menstruation began when the patient was thirteen and one-half years of age At first it was regular but after the twentieth year it was sometimes irregular until the patient was married when it again became regular During the last three years it occurred only at long intervals up to four months duration When the patient consulted the author she had not menstruated for fifteen months During that time a bodily and psychic masculinization had appeared The patient had a pronounced growth of beard a male form and hirsuties and a penis like enlarged clitoris Following the removal of a small tumor from the left ovary the female characteristics soon returned completely and the menses again appeared every four weeks The patient has now been normal for two years.

In the outer portions of the ovary young follicles were found The tumor showed convoluted forked tubes and was divided by connective tissue. Between the tubes there were heaps of lipoid containing cells closely resembling testicular interstitial cells. Macroscopically and microscopically the tumor completely resembled the tubular adenoma of the testicular ovotestis (Pick) Nevertheless Neumann maintains his former view that tubular adenomata may originate also from underdeveloped cells of the germinal epithelium which in themselves have nothing to do with the testicular portions Tubular adenomata do not allow the assumption of hermaphroditism For such a diagnosis portions of the testicle must be demonstrated in the ovary

In the case reported by the author it was surprising that the tissue assumed to be a testicle in the ovary showed its heterotopic hormonal influence only after the formation of the tumor Attention is called to the fact that in the case reported by Pick, male characteristics were absent in spite of the tumor formation Neumann holds to the view of Halban that the hormonal influence of the gonads is only of protective value and that in this particular case only the degree and not the nature of the change in the incretion was of importance

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MISCELLANEOUS

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The only criteria used heretofore to determine the most favorable time for operative intervention were the symptoms the temperature the blood count and the reaction to examination The sedimentation test offers an added safeguard In cases of pelvic inflammation a decrease in the reading to 20D or less from a higher level indicates that the inflammatory process has subsided sufficiently to permit surgical intervention

The sedimentation test is a more certain means of indicating inflammatory change than the white blood cell count or temperature curve

In early unruptured and uncomplicated ectopic pregnancy the sedimentation rate will be slow The test will not differentiate between appendicitis pyosalpinx and ruptured ectopic pregnancy with marked hæmorrhage

As inflammatory change and tissue involvement elsewhere in the body influence the sedimentation reaction a careful physical examination is essential

In cases of cancer the sedimentation corresponds to the degree of tissue involvement In myoma the test will show the cases in which inflammatory complications are to be expected

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OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Lahm W The Attachment of the Human Ovum to the Fallopian Tube (Ueber die Anheftung des menschlichen Eies im Eileiter) *Arch f path Anat* 1928 cclxix 553

This article is based on a study of twenty five tubal pregnancies Twenty pre ented morphological changes which may be regarded as the cause of the attachment of the ovum in the tube On the basis of the findings of the microscopic examination Lahm divides the cases into the following seven groups

Group 1 Four cases of cribriform occlusion of the fallopian tube In all of these cases the tubal lumen was found closed proximal to the ovum the passage of the ovum into the uterine cavity being thereby prevented

Case 1 of this group was that of a woman thirty five years old who had borne six children and had had one miscarriage When the patient was examined by the author she had a tubal pregnancy on the right side Microscopic examination revealed endometri oid malformation of the mucous membrane

Case 2 was that of a woman thirty eight years old who had borne two children On microscopic exami nation the tubal lumen was found closed at the site of the ovum by delicate coiled fold.

In Case 3 that of a nullipara thirty-one years old and Case 4 that of a woman thirty six years old who had borne three children a reticular occluding struc ture was found

Group 2 Five cases with the formation of an annular fold in the tubal mucous membrane without a decidual reaction The ages of the patients in this group ranged from twenty eight to thirty three years No inflammatory changes were found Some of the women had borne children

Group 3 Four cases showing the formation of an annular fold in the tubal mucous membrane with a decidua formation

Group 4 *Cases of decidua formation in the fallo* pian tube without fusion of folds In this group the author distinguished three subgroups (1) the speck like formation described by Mandl (2) an extensive decidual reaction suggesting that the decidua acted as a mechanical obstacle to the passage of the ovum and (3) a complete decidual transformation of the mucous membrane such as is usually encountered only in the uterus and may act both mechanically and biologically

Group 5 Five cases with defects in the mucous membrane of the tube Examination revealed irregu lar development of the mucous membrane with for example a unilateral fold formation and atrophy of the mucous membrane of the opposite side with dis-placement of the lumen toward the periphery

Group 6 A four fold type of tubal mucous mem brane In this group the speck like formation of decidua is also included

Group 7 Incomplete development of the tubal musculature—a case of defect in the archi myometrium

The author comes to the following conclusions

1 In 80 per cent of the tubal pregnancies studied there were demonstrable pathological changes in the tube which alone explained the tubal attachment

2 In 20 per cent of the cases inflammation of the mucous membrane or of the peritoneum in some form alone or in connection with disturbed peri stalsis in the tube may have played a rôle

3 In many cases there was no absolute necessity for the occurrence of the tubal pregnancy even when distinct morphological changes could be demon strated The tubal pregnancy was more or less a matter of chance A determinative influence in this direction seems to be exerted by (a) the strength of the vis a tergo the impulse received by the ovum (b) the extent strength and biological character of the decidual reaction (c) the degree of the conges-tion of blood in the mucous membrane

The author next discusses the various changes in the tube He shows that inflammation is not ne es sarily the only cause of fusion of folds Nevertheless he cannot agree with Schridde and Schoenholz that the fusions represent malformations in the anla e He thinks they are acquired as the result of the cast ing off of epithelium during the menstrual reaction the consequence of inhibited differentiation and that inhibited differentiation—in the four fold type for example—is the most frequent cause of attach ment of the human ovum in the tube

NEUMANN (G)

Scheyer H E The Question of the Treatment of Rupture of the Uterus in Clinical Manage ment Also a Report on the Cases of Rupture of the Uterus Observed During the Last Twenty Years at the Landesfrauenklinik at Paderborn under the Direction of Provincial Medical Councillor Mann (Zur Frage der Therapie der Uterusruptur in klinischen Betrieben Zugleich Bericht u ber die in den letzten 20 Jahren in der Landesfra enklinik zu Paderborn—Direktor Provin z al Obermedizinalrat Dr Mann—beobachteten Faelle von Uterusrupturen) *Muench m d Wch schr* 1929 i 364

According to the literature of recent years ab-dominal panhysterectomy is the procedure of choice in the treatment of rupture of the uterus The author proposes in its stead treatment which is based on the requirements of the particular case He illus trates the different methods—vaginal total extirpa tion supravaginal amputation of the uterus and

suturing of the rupture by the abdominal route—by means of twelve cases operated upon during a period of twenty years

Of four women treated by total extirpation three died of two treated by supravaginal amputation of the uterus both died and of four in whom the rupture of the cervix was sutured one died

The successes or failures of the individual methods should not be attributed entirely to the methods The decisive factors are the patient s general condition the interval of time elapsing between the rupture and the operation the patient s resistance and particularly the power of reaction of the pelvic connective tissue and the reticulo-endothelial apparatus Every case of rupture of the uterus should be considered as infected An exploratory laparotomy should be done even in incomplete ruptures to determine whether other injuries are present The method of operation should then be chosen according to the local conditions found After freshening of the edges of the wound longitudinal ruptures in the cervical portion of the uterus are sutured in layers with interrupted sutures and then peritonized When there is marked exsanguination supravaginal amputation of the corpus of the uterus is perhaps preferable If a main branch of the uterine artery is injured or if hæmostasis is possible only by ligation of the uterine artery total extirpation should be done In cases of transverse rupture with preservation of the uterine artery supravaginal amputation may be considered as well as total hysterectomy In all obstetrical interventions in which there is a possibility of a rupture the uterus should be thoroughly palpated in order to detect a possible rupture at the earliest moment

KABOTH (G)

Suesman F Two Unusual Cases of Rupture of the Uterus in the Scar of a Previous Cervical Caesarean Section (Zwie seltene Faelle von Uterusruptur in der alten Kaiserschnittsnarbe nach cervicalem Kaiserschnitt) *Zentralbl f Gynaek* 1929 p 410

The first case reported was that of a para ii twenty two years of age who had been subjected to a cervical cæsarean section three years previously on account of a flat pelvis During the puerperium her temperature rose to 39 2 degrees C Toward the end of her second pregnancy the patient experienced a sudden severe pain which confined her to bed for a day On the following day she again felt well and went about her household duties Eight days later regular pains began On external examination marked sensitiveness to pressure was discovered in the region of the old scar Cæsarean section was repeated on account of disproportion between the fetal head and the pelvis The old scar was found open and partly covered by adherent omentum and blood clots A living child was delivered Supravaginal amputation was then performed It is noteworthy that the patient had been able to work in the kitchen for eight days with a ruptured uterus

In the second case a uterine pregnancy had fallen into the abdominal cavity through the separated old uterine scar and then developed to term as an extra uterine pregnancy The patient was a para v thirty three years old whose fourth pregnancy had been terminated by cervical cæsarean section because of placenta prævia The highest temperature was 38 6 degrees C The patient entered the clinic in the ninth month of her fifth pregnancy She stated that three weeks previously she had suffered attacks of pain and since then there had been no evidence of life in the fetus At the time of her admission to the hospital the cervix showed two fingers dilatation and the vertex was palpated as the presenting part At first expectant treatment was given but as the temperature began to rise a metreurynter was inserted to terminate the pregnancy Still there were no pains When the temperature rose to 39 1 degrees C an anterior hysterotomy was performed An incision 5 cm long revealed an opening in the wall of the cervix which communicated with the amniotic cavity The macerated fetus was removed in pieces Palpation of the amniotic cavity showed the true state of affairs and proved that laparotomy had been indicated The entire amniotic cavity was covered by necrotic masses although it was closed to the free abdominal cavity After removal of the necrotic tissue the fetal cavity was irrigated and tamponade was performed by the Mikulicz method Death occurred nine days later from general peritonitis

WILLE (G)

Neumann H O Pregnancy and Leukæmia (Schwangerschaft und Leukaemie) *Ztschr f Geburtsh u Gynaek* 1928 xciv 412

The author reviews the cases of pregnancy with leukæmia which have been recorded in the literature to date and reports a case of his own

Leukæmia is divided into the myeloid and the lymphatic forms which are in turn divided into an acute form a chronic form and a form of undetermined genesis With regard to the manner in which this disease is influenced by pregnancy and the dangers to the mother arising from it the author states that chronic myeloid leukæmia usually grows worse with every succeeding pregnancy The course of the acute form on the other hand is equally rapid in the non pregnant and pregnant states Lymphatic leukæmia occurs with pregnancy only in the acute form and leads rapidly to death The acute leukæmia of undetermined nature has the same unfavorable prognosis In the cases of chronic myeloid leukæmia reviewed the condition did not become appreciably worse during parturition or the early puerperium but in those of the acute form of the condition death usually resulted immediately after delivery Hæmorrhage was scarcely ever the cause of death although the tendency toward a hæmorrhagic diathesis is particularly strong in the acute leukæmias Acute lymphatic leukæmia and the acute leukæmia of undetermined nature have a similarly deleterious effect in the puerperium

With regard to the effect of maternal leukæmia on the child the author states that neither in chronic nor acute myeloid or lymphatic leukæmia has transmission to the child been demonstrated

Neumann's standpoint regarding the treatment of a leukæmic pregnant woman is summarized as follows

Since in the acute form of the disease it is impossible to save the mother's life the attempt should be made to save that of the child especially since an intervention to interrupt the pregnancy constitutes in itself a danger to the life of the mother In chronic leukæmia however an expectant attitude with regard to interruption of the pregnancy is proper when the first pregnancy occurs early in the course of the disease If the disease has existed for several years interruption of the pregnancy is indicated In the cases of women who have already successfully withstood a number of pregnancies in spite of an existing leukæmia and in whom the conditions of the present pregnancy permit its continuation a sterilizing procedure should be carried out soon after delivery It need hardly be said that sterilization should always be considered when a pregnancy has been interrupted for the reasons cited The method of choice is intrauterine radium irradiation The most certain means of curing chronic leukæmia is the prevention of pregnancy since with every pregnancy the condition becomes worse

The rarity of the association of leukæmia with pregnancy is explained by the following facts

1 Leukæmic diseases are rare

2 They are twice as frequent in males as in females

3 The functional activity of the tubal and uterine mucous membrane being decreased or inhibited by the leukæmic infiltration the leukæmic woman is less likely to become pregnant

4 Leukæmic women who pass successfully through pregnancy childbirth and the puerperium come under the observation of internists rather than gynecologists and are therefore left out of gynecological and obstetrical statistics

No case of pregnancy in association with chronic lymphatic leukæmia has as yet been observed

The author urges cooperation with the clinics for internal medicine in order that more information may be obtained regarding the association of pregnancy with leukæmia SIEGERT (G)

Isbruch F and Wohlfeil T Studies and Experiments with Regard to the Cause of the Toxicoses of Pregnancy Are the Iso Agglutinins Isohæmolysins or Anaphylaxins of Etiological Significance? (Studien und Versuche zur Aetiologie der Schwangerschaftstoxikosen Sind Isoagglutinine Isohaemolysine oder Anaphylaxine aetiologisch von Bedeutung?) *Arch Gynæk* 1929 cxxx 1 19

In order to determine whether the blood group heterogeneity of the child has a deleterious influence upon the maternal organism in the sense of the development of toxicoses the authors determined and compared the blood groupings of 410 mothers and children The determination of the blood group was made in hanging drops This investigation yielded the surprising finding that there was a greater percentage of heterospecific pregnancies among the women without symptoms than among those with toxicoses Hence an iso-agglutination cannot be the cause of the disturbances observed in pregnancy in the sense of toxicoses The investigations showed also that the sex of the child has no influence on the development of the toxicoses of pregnancy

In another series of experiments the authors attempted to determine whether isohæmolysins are of importance in the development of the disturbances and toxicoses of pregnancy They tested the effect of maternal sera upon the infantile red blood cells and of infantile sera upon the maternal red blood cells The maternal blood was obtained by venepuncture immediately after delivery and the infantile blood was obtained from the umbilical cord The sera were inactivated the red blood cells were used in a 5 per cent suspension and fresh active guinea pig serum was employed as the complement In the 18 cases studied the authors found that after twenty four hours no trace of isohæmolysis was demonstrable Hence isohæmolysis shows no relationship to the toxicoses of pregnancy

It was found also that in cases of lues with a positive Wassermann reaction independent of the homogeneity or heterogeneity of the blood group there was a marked isohæmolysis between the maternal serum and the infantile red blood cells and vice versa whereas in 2 cases of latent syphilis only slight or no hæmolysis occurred

The authors attempt with the aid of a passive anaphylaxis to obtain proof that the toxicoses of pregnancy are an anaphylactic condition led to no positive findings MAINERT (G)

Beckman M and Kirch A Tuberculosis and Pregnancy (Tuberculose und Schwangerschaft) *Arch f Gynæk* 1929 cxxv 438

According to Pankow the indication for the interruption of pregnancy depends on the recognition of a manifest or latent pulmonary tuberculosis The authors consider this basis unsatisfactory as great difficulty is experienced in the separation of latent and manifest tuberculosis They believe it better to follow the System of Pulmonary Tuberculosis by W Neumann which distinguishes 3 groups of cases Group A (phthisis fibrocaseosa phthisis ulcerofibrosa) Group B (phthisis fibrosa densa phthisis fibrosa diffusa phthisis miliaris disseminata the proliferating primary syndrome) and Group C (rudimentary pulmonary tuberculosis)

The authors report on more than 175 cases treated at the Wilhelmina Hospital in Vienna which were classified according to Neumann's scheme

In Group A there were 39 patients—30 with fibrocaseous phthisis and 9 with fibro-ulcerative

nthisis In the 30 cases of fibrocaseous phthisis regnancy was interrupted 27 times In a follow up vestigation of these patients made from nine onths to three years later the pulmonary condition as found to be improved in 13 and unchanged in 11 hree of the women had died Of the 3 women whose regnancies were not interrupted 2 showed no hange in the lung condition and 1 was dead Of the women with fibro-ulcerative tuberculosis whose regnancies were interrupted 2 died and 2 showed an ggravation of the pulmonary condition on later xamination These results indicate that fibro lcerative tuberculosis is no less serious than fibro iseous tuberculosis in the presence of pregnancy

In Group B there were 53 cases in 37 of which the regnancy was interrupted In 17 of the women reated by interruption of the pregnancy the pul ionary condition improved in 17 others it remained nchanged and in 2 it became worse One woman ied Of the 16 women in this group whose pregnan ies were not interrupted 15 showed no change in the ng condition at a later examination and 1 died

In Group C there were 83 cases in 29 of which bortion was induced and in 24 of which it occurred utside the hospital In 30 cases the pregnancy con nued to term In none was any change found in the ng condition at subsequent examination Twenty ve of the patients developed a temperature up to 7 4 degrees C (rectal) and 58 a temperature above 7 4 degrees C (rectal) during the period of observa on It therefore appears that the temperature in hese cases is not a reliable indicator

The authors come to the conclusion that in Group interruption of the pregnancy is generally indi ated It is obvious however that operative inter ention should not be attempted if it increases the a gers In Group B there is no general indication or the interruption of pregnancy but the indication s present in every definite case of tuberculosis brosa densa and diffusa as well as in all the sub roups of the classification showing activity In ro p C interruption of pregnancy is indicated only f the patient s condition becomes worse because of he development of an exudative focus

GRAGERT (G)

LABOR AND ITS COMPLICATIONS

Lotzeaux L S The Cervix in Labor *Am J Obst & Gynec* 1929 xvii 57

The non-dilating cervix is a major factor in dystocia and its management

Expectant treatment combined with the use of morphine and other analgesics is recommended for the first stag of labor

Ultraconservatism should be followed in and limited to the first stage

The choice of the lower abdominal or vaginal route for the termination of labor should be made as early in labor as possible

Delivery at one sitting is advisable when the decision for interference has been arrived at

The author urges more frequent consideration of cervicolaparotomy vaginal cesarean section and cervical incisions rather than the use of hydrostatic bags and manual dilatation

The patient s physical strength should be con served by rest and diet and obstetrical intervention should be done while there is still a wide margin of safety

All deliveries whether spontaneous surgical or manipulative should be carried out with meticulous care as to hospitalization anæsthesia assistants and technique

In conclusion Lotzeaux states that the trend toward incisional obstetrics is justified if the in cisions are made by qualified obstetrical surgeons with the obstetrical judgment essential to obstetrical decisions as well as incisions

In the discussion of this report KOSMAK said that prophylactic treatment should reduce interference during the later stages of labor He has found atropine of considerable value According to his experience a combination of morphine and atropine is much more effective than morphine used alone

BISHOP stated that a proper knowledge of the physiology of the lower uterine segment is most im portant In the first stage sedatives should be used When either the child or the mother shows signs of strain after rotation and a further te t of labor there should be no hesitation in incising the cervix and extracting the child

WATSON said that there seems to be an analogy between the dystocia of the first stage with good uterine contractions no dilatation of the cervix and a good deal of pain and cases of so called spasmodic dysmenorrhœa E L CORNELL M D

Kerr J M M The Management of Cases of Pel vic Disproportion *J Obst & Gynæc Brit Emp* 1929 xxxvi 265

Shaw W F The Immediate Results to Mother and Child of Labor with Contracted Pelvis *J Obst & Gynæc B it Emp* 1929 xxxvi 270

Young J The Factors Underlying Maternal Mor tality in the Operative Treatment of Ob structed Labor *J Obst & Gynæc Brit Emp* 1929 xxxvi 278

Barris J D Induction of Labor for Dispropor tion *J Obst & Gynæc B t Emp* 1929 xxxvi 287

Solomons B and Taylor W A The Diagnosis of Disproportion Antenatal and Intranatal with a View to Treatment *J Obst & Gynæc Brit Emp* 1929 xxxvi 293

KERR states that it is impossible to determine the capacity of the true pelvis by mechanical means or to estimate the size of the fetal head *in utero* with exactness The most striking features in all statistics bearing on labor in contracted pelvis are the frequency of spontaneous delivery and the low mortality and morbidity rate in mother and child with spontaneous delivery Of special importance is the late effect on the child in cases of prolonged second stage Whenever forceps are employed in contracted pelvis to pull the head down and out of

With regard to the effect of maternal leukæmia on the child the author states that neither in chronic nor acute myeloid or lymphatic leukæmia has transmission to the child been demonstrated

Neumann's standpoint regarding the treatment of a leukæmic pregnant woman is summarized as follows

Since in the acute form of the disease it is impossible to save the mother's life the attempt should be made to save that of the child especially since an intervention to interrupt the pregnancy constitutes in itself a danger to the life of the mother In chronic leukæmia however an expectant attitude with regard to interruption of the pregnancy is proper when the first pregnancy occurs early in the course of the disease If the disease has existed for several years interruption of the pregnancy is indicated In the cases of women who have already successfully withstood a number of pregnancies in spite of an existing leukæmia and in whom the conditions of the present pregnancy permit its continuation a sterilizing procedure should be carried out soon after delivery It need hardly be said that sterilization should always be considered when a pregnancy has been interrupted for the reasons cited The method of choice is intrauterine radium irradiation The most certain means of curing chronic leukæmia is the prevention of pregnancy, since with every pregnancy the condition becomes worse

The rarity of the association of leukæmia with pregnancy is explained by the following facts

1 Leukæmic diseases are rare

2 They are twice as frequent in males as in females

3 The functional activity of the tubal and uterine mucous membrane being decreased or inhibited by the leukæmic infiltration the leukæmic woman is less likely to become pregnant

4 Leukæmic women who pass successfully through pregnancy childbirth and the puerperium come under the observation of internists rather than gynecologists and are therefore left out of gynecological and obstetrical statistics

No case of pregnancy in association with chronic lymphatic leukæmia has as yet been observed

The author urges cooperation with the clinics for internal medicine in order that more information may be obtained regarding the association of pregnancy with leukæmia SIEGERT (G)

Isbruch F and Wohlfeil T Studies and Experiments with Regard to the Cause of the Toxicoses of Pregnancy Are the Iso Agglutinins Isohæmolysins or Anaphylaxins of Etiological Significance? (Studien und Versuche zur Aetiologie der Schwangerschaftstoxikosen Sind Isoagglutinine Isohaemolysine oder Anaphylaxine aetiologisch von Bedeutung?) *Arch Gynaek* 1929 cxxxvi 19

In order to determine whether the blood group heterogeneity of the child has a deleterious influence upon the maternal organism in the sense of the development of toxicoses the authors determined and compared the blood groupings of 410 mothers and children The determination of the blood group was made in hanging drops This investigation yielded the surprising finding that there was a greater percentage of heterospecific pregnancies among the women without symptoms than among those with toxicoses Hence an iso agglutination cannot be the cause of the disturbances observed in pregnancy in the sense of toxicoses The investigations showed also that the sex of the child has no influence on the development of the toxicoses of pregnancy

In another series of experiments the authors attempted to determine whether isohæmolysins are of importance in the development of the disturbances and toxicoses of pregnancy They tested the effect of maternal sera upon the infantile red blood cells and of infantile sera upon the maternal red blood cell The maternal blood was obtained by venepuncture immediately after delivery and the infantile blood was obtained from the umbilical cord The sera were inactivated the red blood cells were used in a 5 per cent suspension and fresh active guinea pig serum was employed as the complement In the 18 cases studied the authors found that after twenty four hours no trace of isohæmolysis was demonstrable Hence isohæmolysis shows no relationship to the toxicoses of pregnancy

It was found also that in cases of lues with a positive Wassermann reaction independent of the homogeneity or heterogeneity of the blood group there was a marked isohæmolysis between the maternal serum and the infantile red blood cells and vice versa whereas in 2 cases of latent syphilis only slight or no hæmolysis occurred

The authors attempt with the aid of a passive anaphylaxis to obtain proof that the toxicoses of pregnancy are an anaphylactic condition led to no positive findings MAHNERT (G)

Beckman M and Kirch A Tuberculosis and Pregnancy (Tuberculose und Schwangerschaft) *Arch f Gynaek* 1929 cxxxv 438

According to Pankow the indication for the interruption of pregnancy depends on the recognition of a manifest or latent pulmonary tuberculosis The authors consider this basis unsatisfactory as great difficulty is experienced in the separation of latent and manifest tuberculosis They believe it better to follow the System of Pulmonary Tuberculosis by W Neumann which distinguishes 3 groups of cases Group A (phthisis fibrocaseosa phthisis ulcerofibrosa) Group B (phthisis fibrosa densa phthisis fibrosa diffusa phthisis miliaris discreta the proliferating primary syndrome) and Group C (rudimentary pulmonary tuberculosis)

The authors report on more than 175 cases treated at the Wilhelmina Hospital in Vienna which were classified according to Neumann's scheme

In Group A there were 39 patients—30 with fibrocaseous phthisis and 9 with fibro-ulcerative

many deaths as others after the operation in clean cases

Young describes the Edinburgh treatment of labor in which obstruction due to pelvic disproportion has become definitely established He draws the following conclusions

1 There is considerable variation in the published mortality figures of different hospitals in respect to the operative treatment of both clean and emergency cases of pelvic disproportion

2 There is evidence that these variations are determined not so much by the type of operation selected and the operative technique employed as by the success attending the efforts to prevent on the one hand contagion of the clean case by the emergency case and on the other hand contagion transmitted from one emergency case to another

3 In general the risk of contagion springs from the inadequacy of the machinery of segregation and this in its turn may be dependent upon difficulty in organizing a satisfactory system because of architectural unsuitability of the buildings

Barris has analyzed the records of 134 cases of induction for disproportion in all of which the contraction was of the small round type and induction was effected by means of bougies or a rubber tube The fetal mortality was a little less than 12 per cent (16 deaths) There was no maternal mortality from the induction but 1 mother died from other causes Barris draws the following conclusions

1 Induction for disproportion has stood the test of time It is easy to carry out and has a remarkably low maternal mortality The labor is usually uncomplicated the risks of difficult labor or cæsarean section are avoided and when the cases are properly selected the fetal mortality is not unduly high

2 Its use should be limited to cases of moderate or slight disproportion after the thirty sixth week in which the vertex is presenting

3 Our social conditions being taken into consideration it remains the best method for such cases

Solomons and Taylor give a very lengthy discussion of the disproportion tables in the Rotunda Hospital Reports for 1926–27 and 1927–28 Their article is summarized as follows

1 Among 4 000 successive cases treated at the Rotunda Hospital in a period of two years there were 294 cases of disproportion

2 Antenatal diagnosis is the ideal to aim at In many cases the possible course of labor can be surmised

3 External pelvimetry is of great service In 43 8 per cent of the cases with small measurements in the series reviewed some form of operative interference was necessary

4 Internal pelvimetry with the Skutsch instrument is used The measurements obtained are of distinct service in indicating the probable margin of safety from the standpoint of proportions in the carrying out of a trial labor

5 X ray pelvimetry renders internal manipulation unnecessary and gives accurate results in a large percentage of cases A roentgenogram gives a fair indication of the relation of the head to the pelvis

6 The head is the best pelvimeter

7 The suggested modification of the Muller method is extremely useful

8 The Kerr Muller estimation must always be done

9 In carrying this out the importance of the soft parts must be remembered

10 In the treatment of cases of disproportion, induction of labor has an important place

11 The knowledge of when and when not to induce labor requires prolonged practice

12 Induction of labor and trial labor may be carried out in borderline cases with a view to the performance of the lower segment section operation with safety

13 Rectal examinations should be made to determine the progress of labor but must not be overdone One vaginal examination is usually sufficient

14 When uterine inertia occurs great care must be exercised in diagnosing whether the condition is primary or secondary

15 The condition of the fetal heart must be observed Temporary accelerations and diminutions in the beat are not always of great importance

16 Information of importance can often be obtained by observing the height of the retraction level This gives an indication of the size of the cervix and the amount of tension in the lower segment

17 As failure to deliver with the forceps has been common in some countries in the past we give our points in diagnosis regarding pubiotomy in the belief that the failures referred to have been due to faulty diagnosis We believe that pubiotomy has a very small place in treatment

18 A final Kerr Muller examination should be made under anæsthesia in cases in which there are indications for delivery and it is impossible to determine with certainty without anæsthesia that the head is through the brim

19 It is suggested that an investigation should be made of the comparative weights of mothers and newborn babies

20 The symptoms and signs of dystocia are given

21 The possibility of false labor spasm of the uterus and especially contraction ring must be thought of when dealing with a case of disproportion

22 A group of symptoms found in cases of contraction ring is given Roland S Cron M D

Miller C J A General Consideration of Cæsarean Section *Surg Gynec & Obst* 1929 xlviii 745

Cæsarean section is not the simple and safe procedure it is generally supposed to be Statistics collected from the literature show that the maternal mortality ranges from 2 to 25 per cent and the infant mortality from 2 to 30 per cent Miller says that there are many reasons for this high mortality The

the pelvis the risk of major and minor injuries to the child is greatly increased Investigations may show such a high late morbidity that it may be necessary to reduce even our present restricted use of the forceps in contracted pelvis

Kerr discusses some of the finer points in the diagnosis of contracted pelvis and advises examination under anæsthesia early in labor and during the second stage to determine the position of the occiput and the size of each pelvic bay It is necessary to ascertain also the consistency of the head and the degree of pelvic obliquity The most important determination in the diagnosis of flat pelvis is whether the anterior or the posterior parietal bone presents Posterior parietal presentation is hopeless as regards both spontaneous delivery and delivery with the forceps Expectant treatment in borderline cases calls for most careful observation and great obstetrical experience judgment and patience but is the most scientific management yet evolved and has resulted in a greater reduction of the maternal mortality and morbidity than any other method

Shaw reports on 290 cases of contracted pelvis treated conservatively by one obstetrician or in one institution Two hundred and forty two of the cases were admitted from the antenatal department and 48 were admitted as emergencies many after failure of instrumental delivery In the former the maternal mortality was nil and the fetal mortality 5 7 per cent whereas in the latter the maternal mortality was 10 4 per cent and the fetal mortality 56 2 per cent The 242 women admitted from the antenatal department were delivered as follows by induction 79 by cæsarean section 76 by natural forces 61 by forceps 13 by breech extraction 7 by version 5 and by craniotomy 1 In the 48 emergency cases delivery was effected by forceps in 14 by craniotomy in 13 by the natural forces in 7 by version in 5 by cæsarean section in 5 and by breech extraction in 4

Sixty eight patients—61 from the antenatal department and 7 admitted as emergencies—delivered themselves All of the 61 patients admitted from the antenatal department had definite contraction of the pelvis with diagonal conjugates varying from 4 to 4½ in Forty three patients were primigravidæ and 26 were multiparæ Shaw considered it justifiable to allow a trial labor provided the patient is in a hospital or nursing home

Of the 290 labors 79 were induced—71 before full time and 8 at or after term The diagonal conjugate varied from 3¾ to 4¼ in and in 3 cases induction was performed on account of a contracted outlet There were 5 stillbirths Forty two of the patients were primigravidæ and 37 were multigravidæ In 72 cases castor oil quinine or pituitrin was used to induce labor In 57 cases this treatment was successful and in 15 it failed In 22 cases bougies were employed This number included the 15 cases in which medicinal induction failed

Eighty-one patients were delivered by cæsarean section All had a contracted pelvis the diagonal conjugate varying from 2¾ to 4¼ in and 1 had in addition a prolapsed cord There was only 1 maternal death that of a woman with eclampsia

Only 27 women were delivered by forceps In the cases of the large majority the forceps were used only when the head was already on the perineum The application of the forceps at the brim is now a comparatively rare procedure Of the 27 cases 14 were admitted as emergencies 5 after failure of the forceps, and only 13 were admitted from the antenatal department The only maternal death was due to sepsis Six children were stillborn—2 in cases admitted from the antenatal clinic in which induction was performed in the thirty eighth week and the forceps were applied because of signs of fetal distress and 4 in cases admitted as emergencies in 2 of which forceps application had failed previously

Shaw calls attention to the fact that the increased number of cæsarean sections performed each year has not diminished the number of craniotomies In the series of cases reviewed 14 craniotomies were done In 13 cases the woman was admitted late in labor and in 6 cases the forceps had been applied and had failed Three of the mothers died 1 from shock two hours after delivery and 2 from sepsis

In the cases of 11 patients with contracted pelvis the child was delivered by breech extraction All of the mothers did well but 4 of the children were stillborn This is a strong argument for external version in the last month of pregnancy in all cases of contracted pelvis with breech presentation In the cases reviewed podalic version was performed 10 times All of the mothers did well but 5 children were stillborn

The cases as a whole show the importance of antenatal supervision as is evident from the following table

	Cases	Maternal deaths		Stillbirths	
		No	%	No	%
From antenatal department	242	0	0	14	5 7
Admitted as emergencies in labor	48	5	10 4	27	56 2

Shaw believes that stillbirth might have been avoided in the 3 cases of breech presentation if version had been performed before labor began

Youngs figures are taken from the reports of 9 well known hospitals published within the past ten years They show a total of 1 143 cæsarean sections for contracted pelvis with 36 deaths a mortality of 3 6 per cent In the 696 cases in which the operation was carried out before labor there were 15 deaths a mortality of 2 per cent and in the 347 cases in which the operation was done after the beginning of labor there were 23 deaths a mortality of 6 6 per cent In 415 clean cases treated in 7 hospitals there were 3 deaths a mortality of 0 7 per cent whereas in 281 similar cases treated in 2 other hospitals there were 12 deaths a mortality of 4 3 per cent This means that some hospitals have 6 times as

therefore serve directly as a measure of the child s general well being and vitality Almost all forms of neonatal disorder—cerebral birth injury infection and prematurity—manifest themselves by interference with one or another or all of these functions

The function of suction constitutes the most useful general index of health and vitality Vigorous and effective suction is an indication of a vigorous and effective child The newly born may indeed be said to function only as a suction apparatus The pressure exercised by a sucking infant otherwise so helpless is surprisingly great Illness decreases this power

Conditions in the infant which from time to time are responsible for failure to nurse include (1) general weakness due to great prematurity or debility (2) dyspnœa due to such conditions as bronchitis pneumonia atelectasis and congenital heart disease (3) nasal obstruction from nasal catarrh syphilitic rhinitis or narrow choanæ (4) incoordinate suction with aerophany due to nervous unrest and crying mental deficiency organic diseases of the central nervous system or cerebral birth trauma (5) local conditions in the mouth and other parts such as macroglossia cleft palate hare lip facial paralysis ranula and ulcers of the mouth and palate and (6) acute infectious illness such as sepsis neonatorum influenza and pyelitis

When the child ceases to suck or sucks with difficulty involution of the breast begins at once and proceeds rapidly

The factors responsible for the high mortality of newborn infants include (1) developmental defects incompatible with life (2) gross prematurity (3) sepsis neonatorum and other infections (4) functional weakness of particular organs giving rise to jaundice the hæmorrhagic disorder and disorders of gastric and intestinal peristalsis and (5) birth trauma

The explanation of the increased susceptibility of the newborn to septic infection is perhaps to be found in part in the structural peculiarities of the skin and mucous membrane in the first few weeks of life which render them much more permeable to bacteria and in the fact that the blood of the newly born is deficient in antibodies Circumstances which powerfully predispose to infection are prematurity dyspeptic and nutritional disturbances and congenital syphilis In addition to the skin and mucous membranes the umbilicus is often a portal of entry According to the system which bears the brunt of the attack various clinical varieties of sepsis neonatorum such as the pulmonary gastro intestinal and cerebrospinal forms are distinguished

HARRY W FINA M D

Cameron H C Some Types of Septic Infection in the Newly Born II Trismus Neonatorum as a Manifestation of Sepsis Neonatorum *Lancet* 1929 ccxvi 1184

In some cases of sepsis neonatorum autopsy discloses cerebrospinal irritation It has been debated whether this finding is the cause or the result of the clinical disorder known as trismus neonatorum but a consideration of all facts seems to prove that it is the cause Confusion of these cases with idiopathic tetanus has persistently occurred It is possible that idiopathic tetanus occurs occasionally in neonatal life but it is clear that trismus neonatorum is due to sepsis and not tetanus According to Gowers the occurrence of tetanus is almost unknown before the age of five years

Even in adults tetanus is occasionally confused with meningitis Shaw states that meningitis may cause spasm of the facial muscles muscles of the neck and abdominal muscles which may be constant and last for hours or days

In the variety of sepsis neonatorum under consideration the rigidity of the muscles is the most characteristic feature The spasm of the jaw muscles unlike that of tetanus occurs early and is not especially severe In cases in which recovery results spasm of the jaw subsides early whereas spasm of the hands and feet may persist for weeks In this respect also the condition differs from tetanus

Of the infants whose cases are reviewed by the author two had septic exfoliative dermatitis one had a septic umbilicus and one had a large sloughing ulcer on the palate In the fifth no focus of infection was obvious Autopsy in one case showed marked hyperæmia and congestion of the brain and spinal cord The spinal fluid removed in this case during life gave clear evidence of cerebrospinal infection or irritation

In India in former years newborn infants died in great numbers from a disease characterized especially by trismus and called sometimes the eighth day sickness or the nine days fits Colles was the first to identify the disorder with traumatic tetanus and to find the focus of the infection about the umbilical cord In the Rotunda Hospital in Dublin following improvements in ventilation and hygiene the mortality fell from 17 per cent in 1782 to 0 2 per cent in 1833 On the island of St Kilda the scourge continued unabated until 1890 when it was checked by Nurse Chisnall who was marooned on the island for the winter with a plan of action and a good supply of iodoform gauze for the cord

A mortality so high in any population and so readily controlled by precautions against sepsis seems more apt to be the result of septic infection than accidental contamination of the umbilical wound with the tetanus bacillus In general the search for the bacillus is unsuccessful and in the majority of cases autopsy reveals changes about the meninges and spinal cord

To prevent sepsis neonatorum all sources of infection must be removed and all portals of entry such as the skin umbilicus and mouth must be protected from irritation excoriation and infection Breast nursing is important In cases of trismus œsophageal or nasal feedings with mother s breast milk are indicated Blood transfusion if quickly carried out may save life

ABRAHAM A BRAUER M D

first and possibly the most important is that we have a wrong conception of the processes of parturition The basic purpose of the obstetrical art is the extraction of the child but we are today in danger of forgetting that the method is quite as important as the act itself Other things being equal the mechanism of a normal labor is still very much better from every angle than any of the modifications devised for it

The second reason for the high mortality of cæsarean section is that the obstetrical training given today in most medical schools is poor Most obstetrical cases are managed by the general practitioner He more than other physicians must know something of everything and it is too much to demand that he be a thoroughly trained obstetrician However it is not too much to demand that he be trained at least to recognize his own limitations and that when necessary in the management of an obstetrical case he consult an obstetrician rather than a general surgeon

The mortality of cæsarean section is due very largely also to the time at which the operation is performed It increases approximately 1 per cent with each hour and each vaginal examination especially after the membranes have ruptured With each attempt at delivery it increases 10 or 15 per cent, and after attempted craniotomy it reaches 50 per cent

Another cause of the high mortality of cæsarean section is the performance of the operation on ill grounded indications or none at all The author recognizes only two absolute indications and speaking paradoxically he says that even these are relative

The classical operation is never safe late in labor When labor is advanced the lower cervical cæsarean section is the most satisfactory

In conclusion Müller says that cæsarean section should be an operation of last resort to be undertaken only when other measures have been rejected as not serving the best interests of the mother and child ABRAHAM A BRAUER M D

Niemack, J Cæsarean Section by Fritsch's Technique with a Report of Sixty Consecutive Cases Without Mortality *Am J Obst & Gynec* 1929 xvii 860

The author reports upon sixty cæsarean sections performed in a period of fourteen years Fifty eight were done by the Fritsch method and two by the vaginal route before term Forty eight were emergency operations All of the mothers and fifty six of the children survived The indications were placenta prævia and premature separation of the placenta in eleven cases narrow pelvis absolute and relative in thirty seven eclampsia in seven nephritis (apoplexy) in three and an obstructing fibroma and hydrocephalus in one case each

On account of the emergency character of most of the operations convalescence was not always smooth but suppuration of the wound and peritonitis were not among the complications The chief difficulties were due to continuation of the convulsions in the cases of eclampsia and dynamic ileus in some of the others Asafetida enemas and the use of the Rehfuss tube and turpentine stupes repeatedly proved of value As a rule there was some fever for the first two or three days The temperature then became normal but showed a second stage of irregularity at about the tenth day The second rise which was not associated with malaise is attributed by the author to giving way of the sutures with absorption of lochia Only one of the patients had fever for over five days Except in the case of one patient with eclampsia whose incision burst open hardly any trouble was experienced with the abdominal wound The operations were performed in a small country hospital

E L CORNELL, M D

NEWBORN

Eades M F Retinal Hæmorrhages of the Newborn *N England J Med* 1929 cci 151

In routine examinations of the eyes of the newborn made by a number of investigators the incidence of retinal hæmorrhage was found to vary from 3 to 34 per cent The causes of the condition include increased pressure in the cavernous sinuses during labor leading to congestion in the ophthalmic veins increased intracranial pressure changes in the placental circulation resulting in increased fetal blood pressure loops of cord around the neck asphyxia and premature rupture of the membranes

This article is based on examinations of the eyes of 138 infants made within twenty four hours after birth Retinal hæmorrhage was found in 17 per cent The author draws the following conclusions

1 Operative delivery especially with forceps plays a major rôle in the production of retinal hæmorrhage

2 In the cases reviewed there was no primary association between retinal hæmorrhage and the duration of the labor the time of the rupture of the membranes contracted pelvis or fetal asphyxia

3 Retinal hæmorrhage is not constant in intracranial injury In cases of such injury ophthalmoscopic study is of no prognostic value and of only secondary diagnostic value

I EDWARD BISHROW M D

Cameron H C Some Types of Septic Infection in the Newly Born *Lancet* 1929 ccxvi 1127

Cameron states that at no time of life is death so imminent as at the beginning In a general infantile death rate of 82 9 per 1 000 live births more than half of the deaths (45 3) occurred in the first month of life

The only parts of the central nervous system which are active at birth are the spinal cord and medulla From the very first the medulla is in full control of the functions and actions which are vital for the child's existence An estimate of the efficiency of the circulatory respiratory and suction apparatus may

therefore serve directly as a measure of the child s general well being and vitality Almost all forms of neonatal disorder—cerebral birth injury infection and prematurity—manifest themselves by interference with one or another or all of these functions

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ABRAHAM A BRAUER M D

MISCELLANEOUS

Kanki Y *The Effect of Pregnancy Labor and Puerperal Confinement upon the Function of the Circulatory System Part II The Blood Pressure of the Capillaries During Pregnancy and the Puerperium* *Jap J Obst & Gynec* 1929 xii 91

This article begins with a discussion of the part played by the capillaries in the circulation of the blood it being assumed that automatic contraction of the vessels is an important factor Two theories have been advanced to explain this contraction—one that it is due to self contraction of the endothelia and the other that it is due to the contraction of the cells surrounding the blood vessels

Bremer's theory regarding the nerve supply to the capillaries and Langley's theory regarding vasoconstriction and vasodilatation of these vessels are discussed

Studies of contractions of capillaries in pregnant women are cited Stasis was found in 60 per cent of healthy pregnant women It is present also in women suffering from so called nephritis and eclampsia

Linzeneier believes that the cause of stasis is closely related to the rate of sedimentation of the red cells Others believe that it is due to vascular contraction The pressure in the capillaries is thought to be a factor in œdema

The author's studies of the capillaries was undertaken to determine the form pressure and velocity of the blood flow The pressure was measured in millimeters of water with an instrument like that used by Takeuchi The findings are summarized as follows

1 The average capillary blood pressure in ninety four healthy pregnant women was 139 4 mm of water

2 The pressure is increased the first day after labor and gradually returns to normal

3 In œdematous women the capillary blood pressure is increased

4 There is no relation between capillary and ordinary blood pressure A H Gladden Jr M D

Young J *The Woman Damaged by Child Bearing* *Brit M J* 1929 i 891

In Great Britain pregnancy and delivery result in the deaths of about 4 000 women and impairment of the health of about 40 000 women every year In the majority of the cases of impairment of health there is obvious damage of the pelvic organs In general the lesions are mechanical or infective or both

The most common mechanical lesion are undoubtedly the conditions which fall under the general term prolapse and are caused by stretching or tearing beyond a reparable degree of the lower margins of the levator ani muscles and the connective tissue that bridges the bony outlet of the pelvis In many cases the condition can be treated effectively with a carefully fitted pessary

Retroflexion also frequently owes its origin to childbirth being especially apt to occur when an infective complication prevents normal involution of the uterus and its supporting ligaments

Other common mechanical disabilities dating from childbirth or childbearing are due to strains of one or more of the articulations of the spinal column and pelvis The joints most subject to strain are the sacro iliac the lumbosacral and the sacrococcygeal joints and the symphysis pubis Sacro iliac and lumbosacral strains are a frequent cause of low back pain localized over the affected joint or spreading into a broad area of the small of the back. Tenderness is noted when pressure is applied to the affected joint. In sacro iliac strain pain may be felt in the joint when the thigh is flexed on the abdomen with the knee straight whereas in lumbosacral strain pain is caused by full flexion of the thigh with the knee bent. The treatment of sacro iliac and lumbosacral affections consists in rest in bed for several weeks in a posture which will ease the strained ligaments the application of hot fomentations over the joint and later exercises and the application of a brace or belt

Strain of the pubic symphysis during labor is a not infrequent cause of pain over the joint in the early puerperium but as a rule the pain has ceased by the time the patient is ready to get out of bed Strain of the sacrococcygeal joint may cause long persisting pain which is aggravated by sitting and is especially marked when there has been backward displacement and fixation of the coccyx in a position which causes its point to project under the skin The treatment usually consists in forcible reduction of the displacement and rest in bed until the bone becomes fixed in a normal position In some cases excision of the coccyx may be necessary

Infection dating from labor may involve any part of the pelvic area but the most common lesion by far is infection of the cervix A chronically inflamed cervix often bleeds when it is touched Because of this fact and the hardening produced by the fibrosis and the nabothian nodules an erroneous diagnosis of cervical cancer may be made The cardinal sign of chronic cervicitis is leucorrhœa The condition is often accompanied by sterility Chronic cervicitis is a common precursor of malignant disease The best method of treatment is thorough opening up of the inflamed areas with the cautery In severe cases two or three cauterizations at monthly intervals may be necessary

Excessive loss of blood during menstruation by parous women nearing the age of the menopause can be effectively and safely treated by the introduction of 30 mm of radium into the uterus for four days

Chronic inflammation of the tubes and ovaries dating from childbed infection is a fairly frequent cause of persisting invalidism The primary treatment of salpingo-oöphoritis should always be palliative The infected cervix should be dealt with first and thereafter the diseased appendages should be treated by rest regulation of the bowel movements to relieve pelvic congestion and local pressure

douching and plugging with some such material as ichthyol in glycerin

Sterility is often due to chronic cervicitis and is frequently cured by active local treatment of the cervix A certain amount of information regarding the condition of the tubes can be obtained by two methods namely insufflation of the tubes from the uterus with air or carbon dioxide under pressure and the injection of an opaque fluid such as lipiodol into the tubes through the uterus followed by roentgenography

In the majority of cases of pelvic infection irritability of the bladder is present

Chronic pelvic infection may be the causal factor in cases of rheumatism and heart disease and both puerperal sepsis and the toxæmias may produce brain lesions that persist in the form of mental impairment or even actual insanity Disease with obscure symptoms but with indications of an origin in an endocrinal abnormality is not an uncommon legacy from pregnancy and childbirth

Young concludes by stating that the woman with chronic ill health dating from childbirth is frequently suffering from multiple lesions Therefore failure to carry out a comprehensive investigation of the various systems may lead to erroneous diagnosis resulting in operations and other forms of treatment that bring little relief ROLAND S CRON M D

Peterson R **The Estimation of Obstetrical and Gynecological Risks** *J Am M Ass* 1929 xcii 1907

In the estimation of obstetrical and gynecological risks the type of operator must be considered It must be known whether he is a radical surgeon who operates at the slightest provocation or a conservative surgeon who carefully weighs his findings before he decides on operation Another consideration is the type of clinic in which the case is to be treated—whether it is a clinic treating private patients with the work done by one man or at most a small group of men or a clinic in which the prime object is to teach younger men and give them the most practical experience the rights of the patients will permit In clinics of the latter type the results will not be so good as in those of the former type

The operative statistics of the new University of Michigan Hospital a teaching clinic show 1 734 operations in the gynecological department with 16 deaths a mortality rate of 0 58 per cent All of the deaths occurred in the 527 cases in which the risk was only fair or poor In the 1 208 cases in which the risk was good the operations were of a minor type such as plastic operations on the anterior or posterior vaginal wall repair or amputation of the cervix and diagnostic dilatation and curettage and the patients showed no abnormalities so far as careful preoperative examination could determine

Among the 527 major operations there were 311 hysterectomies without removal of the appendages In this group there were 14 deaths Seven of the deaths occurred following hysterectomy for long existing inflammatory disease such as is usually treated by panhysterectomy

Risks can be estimated only in a general way but an estimate should be made in every instance as a check to careless and routine operating without careful preoperative examination of the patient The unchecked surgical work going on in poorly managed hospitals is appalling Reforms must come from within the profession The solution of the problem lies with the hospital

In malignant disease of the uterus or appendages the risk is at best only fair irrespective of the type of operation performed In combined operations the operative risk is greatly increased

Diabetics should never be considered good risks Before operation the diabetes should be well controlled Blood transfusion and the intravenous administration of dextrose have had a marked effect in reducing the mortality The risk is considered good if the color index is 70 or over fair when the color index is between 70 and 50 and poor when the color index is below 50

In obstetrics the task of evaluating the operative risk is even more difficult than in gynecology for almost always two risks must be considered that of the mother and that of the child

In summarizing the author states that a good risk is one in which the general condition is excellent and the local condition calls for an operative procedure that can be done reasonably quickly and without undue loss of blood A poor risk is one in which operation is obligatory although the patient's chances for surviving it are not good or even fair

ABRAHAM A BRAUER M D

GENITO URINARY SURGERY

ADRENAL KIDNEY AND URETER

Stewart G N The Adrenal Glands *Arch Int Med* 1929 xliii 733

The author is of the opinion that the cortex of the adrenal gland is indispensable to health and life The medulla can be destroyed or its discharge of epinephrin may be arrested by section of the nerve supply without ill effects immediate or remote

Dogs operated upon properly under proper conditions live from six to nine days after complete adrenalectomy Cats live longer than dogs their average survival being eleven days A few of the cats operated upon by Stewart lived three weeks

When extracts of the adrenal cortex of animals obtained from the slaughter house are injected into the dogs subjected to adrenalectomy their lives are prolonged The author ascribes the prolongation of life to a substance in this tissue which he has termed *interrenalin*

The medulla is believed to have a definite physiological function It is well known that puncturing of the fourth ventricle causes hyperglycæmia and an increased output of epinephrin There is no evidence that epinephrin from the adrenal glands is the factor which causes hyperglycæmia when the function of insulin is interfered with In considering the function of the medulla it must be remembered that no immediate function can be assigned to an organ the loss of which causes no symptoms

The adrenal medulla is abundantly supplied with nerves which specifically control the output of epinephrin whereas the cortex functions normally when the gland is denervated The author suggests that the purpose of the close control of the output of epinephrin by the nervous system may not be to keep up the concentration in the arterial blood to a certain beneficial level but to keep it below a certain harmful level

The adrenals have a reserve of epinephrin which under abnormal conditions can be liberated not all at once but so rapidly that harmful concentrations may be reached This amount of reserve might be dangerous if it suddenly escaped in the adrenal veins Intense or prolonged emotional disturbance causes no effect upon this reserve but numerous drugs diminish it to a great extent.

ELMER HESS M D

Judd E S and Hand J R Hypernephroma *J Urol* 1929 xxi 10

Carcinomata of the renal cortex are extremely malignant and are often well advanced before they produce symptoms Alveolar carcinomata in which there is little cellular differentiation are the most highly malignant of the various types of renal carcinoma whereas adenocarcinomata are less malignant as judged from their clinical course

Improvement in the end results is dependent upon earlier consultation of the physician by the patient after the onset of the initial symptom although in some cases in which symptoms have been present for a long time an unexpectedly good result may be obtained Before it will be possible to arrive at more exact knowledge of the effect of treatment and the prognosis in the individual case it will be necessary to subject all of these malignant tumors to gradation on the basis of cellular differentiation

Of the 367 patients on whom the authors have operated for renal malignancy many are now dead but not all of the deaths were due to the malignant lesion Many of the patients lived for several years after the operation and died from other causes In the cases of some who were known to have a metastasis at the time of the operation the evidence at hand seems to indicate that the condition was arrested for a time Therefore it appears that even in such cases nephrectomy will offer a reasonable degree of palliation From the fact that 106 of the patients lived for from three to twenty two years after the operation the authors conclude it justifiable to assume that surgery will effect a cure in a definite proportion of the cases

Thomas A B Nephrectomy for Unilateral Polycystic Kidney *Ann Surg* 1929 lxxxix 946

The author reports the case of a thirty-one year old woman with a mass in the left side which on investigation was found to be the left kidney showing polycystic degeneration At operation the right kidney was palpated through the abdomen and found grossly normal The left kidney was therefore removed The patient made a good recovery and when last seen three years after the operation was apparently well

Thomas cites cases of unilateral polycystic kidney reported by others The number of such cases on record is small as compared with the number of bilateral cases

In recent years the question has been raised as to whether polycystic disease even occurs as a unilateral condition and whether in the so-called unilateral cases the cyst development has not been merely retarded in one kidney Cases have been reported in which cyst development occurred in the remaining kidney as long as seven years after the removal of the first kidney for the same condition The author concludes that because of the ever present question of bilaterality of the condition the removal of a polycystic kidney should be undertaken with great hesitancy I J SHAPIRO M D

MacKenzie D W and Parkins G A Renal Tumors *Canadian M Ass J* 1929 xx 616

Of fifty six renal tumors seen in the Royal Victoria Hospital during the past nine years forty three were malignant

Of the thirteen benign tumors six were solitary cysts two were multiple cysts two were fibromata two were papillomata with calculi and one was a hæmangioma All of the patients were cured

Thirty seven of the forty three malignant tumors were proved and twenty seven were operated upon Twenty two of the thirty seven patients were in the fourth and fifth decades of life Twenty one were males The right kidney was involved in fourteen cases Eight of the patients had metastases when they were first seen

The chief signs and symptoms were as follows

	Total symptom Cases	Associated symptom Cases
Hæmaturia	14	9
Pain	16	11
Tumor	3	20
Weakness and loss of weight	2	7
Anorexia		2
Varicocele		2

The diagnosis was made from the history and the findings of physical examination and cystoscopic and pyelographic study Pyelography is the most essential as it will show the various abnormal changes

The pathological reports of the twenty seven cases of malignancy which were operated upon showed that fifteen of the tumors were hypernephromata seven were carcinomata two were papillary adenocarcinomata one was a squamous celled carcinoma one was a leiomyosarcoma and one was a cystadenoma papilliferum malignum

The treatment which gives the best results is nephrectomy with removal of the involved regional lymph glands Radium and deep X ray irradiation may be used as adjuvants

The prognosis is very grave The ultimate mortality is as high as 90 per cent

Four cured cases from a group of twenty three operated upon prior to 1926 are reported The cases of five patients who could not be traced are included with those in which death occurred

The authors emphasize the extreme malignancy of malignant kidney tumors the necessity for a thorough early examination *the difficulty of early* diagnosis and the disproportion which often exists between the early symptoms and the pathological findings

CLAUDE D PICKRELL M D

Herman L and Greene L B The Diagnosis of Primary Neoplasms of the Renal Pelvis *Ann S g* 1929 lxxxix 682

Carcinomata constitute approximately 5 per cent of all renal neoplasms It is probable that the majority of them originate from the pelvic mucosa

Little effort has been made to differentiate the papillary from the flat or non papillary tumors of the renal pelvis by urography but the clinical differences are clearly defined In cases of tumors of the non papillary type clinical differentiation is rarely possible before the disease has advanced to the inoperable stage

Ewing classifies neoplasms of the renal pelvis as (1) benign papillomata () papillary epitheliomata and (3) flat or alveolar carcinomata

The papillary tumors of the renal pelvis as encountered by the surgeon may be apparently benign or possibly or obviously malignant Infiltrating non papillary or alveolar carcinomata are always malignant A neoplasm which shows both the gross and microscopic characteristics of benignancy may prove to be most malignant as evidenced by prompt local recurrence and metastatic dissemination It is probably of little practical importance whether a papillary carcinoma has resulted from the malignant transformation of a primary benign growth or has been malignant from its beginning According to the consensus of opinion all papillary tumors are inherently malignant and the microscopic characteristics of benignancy do not insure benign behavior of a neoplasm

The authors report seven cases of tumors of the renal pelvis and discuss such neoplasms chiefly from the standpoint of diagnosis

They state that non papillary carcinomata of the renal pelvis constitute a small excessively malignant group It is believed that primary non papillary neoplasms of the renal pelvis originate from the transitional epithelium but the parent cells are probably not cells normal to the part but cells which have become squamous in type as the result of metaplasia or true actodermic cells representative of developmental inclusions

There seems to be no question that chronic irritation is an important predetermining factor in squamous cell epithelioma of the renal pelvis This is evidenced by the fact that chronic bacterial inflammation is usually present and stones are present as well in about one half of the cases Leucoplakia frequently antedates the onset of malignancy In some instances the malignancy is found to have developed from the margins of a leucoplakial placque

One type of tumor of the renal pelvis is characterized by early replacement of the renal parenchyma by tumor cells and fibrosis leading to enlargement induration nodulation and dense fixation of the kidney *This type is usually associated with calculi* A second type is characterized by early ureteral occlusion with the development of a large hydronephrosis While parenchymal involvement is retarded in the latter variety a cure by operation as in cases of the widely disseminated group of tumors is rarely attained Early metastasis by way of the lymphatics probably occurs very early in the course of squamous cell tumors of the renal pelvis whatever the gross form of the primary growth In a few instances renal dilatation may perhaps account for the pain and the presence of a palpable renal mass but in the majority of cases the pain is due to

perirenal nerve involvement and the mass to carcinomatous infiltration of the parenchyma These manifestations usually denote that the condition is inoperable

The diagnosis of squamous cell or *non papillary* carcinoma of the renal pelvis seems to have little practical importance except as the basis of a hopeless *prognosis*

No one so far as is known has succeeded in making the correct diagnosis of non papillary tumor of the renal pelvis or recognizing the condition as neoplastic early enough to permit complete eradication of the disease by *nephrectomy It is altogether* likely that the pyelogram would disclose pelvic distortion effacement of an involved calyx or other changes caused by an infiltrating tumor even in the early stages if the symptoms indicating the necessity for such studies arose or if cases of calculus and chronic infection of the kidneys were subjected routinely to pyelography That early diagnosis *would lead to improvement in operative results is* probable but at the present time the results obtained by operation justify the conclusion that non papillary carcinoma of the kidney is a fatal disease

Papillary tumors as a class are less malignant than those of the non papillary type but unlike the *latter give origin in 70* per cent of the cases to tumor implants in the ureter and bladder The *papillary tumor may exhibit extraordinary malig*nancy and in rare instances an apparently benign *papilloma may* become the source of widespread rapidly growing metastases In most instances however both parenchymal invasion and metastatic dissemination occur comparatively early The hæmaturia varies in degree but truly massive renal hæmaturia in the absence of renal enlargement is *very suggestive of papillary neoplasm*

Renal colic caused by the passage of clots which are sometimes wormlike or by pelvic blockage due to a parenchymal growth is a frequent symptom A fixed boring renal pain is highly suggestive of advanced carcinoma

Palpable renal enlargement with or without fixation of the kidney indicates inoperability when *it is due to parenchymal involvement* but is sometimes caused by primary or secondary *hydronephrosis*

Gross hæmaturia is a *frequent sign of papillary* neoplasms of the kidney pelvis The only dependable means of diagnosing these new growths seems to be the urographic demonstration of pelvic distortion in the routine search for the cause of the renal *hæmaturia*

It may be assumed that the clinical diagnosis of an intrapelvic neoplasm is impossible Large renal tumors associated with gross *hæmaturia are* usually hypernephromata *but both* the recognition of the neoplasm as the cause of the renal symptoms and the differentiation between the various types of renal new growths are largely dependent upon urography The *differential diagnosis* between papillary tumors essential hæmaturia early renal tuberculosis bleeding nephritis angiomata hydronephrosis and other bleeding lesions of the kidney is likewise dependent largely upon X ray examination The clinical history physical examination *examination of the divided* urine differential renal function studies and various laboratory tests are useful diagnostic aids

Little can be accomplished in the diagnosis of renal lesions when the kidney is closed and the bladder free from pathological changes The presence of a papillary growth in the bladder in association with unilateral hæmaturia or closed kidney *should suggest a primary papillary growth in the* kidney pelvis When papillary tumors are found in the urinary bladder the upper urinary tract should be studied whenever possible Ureterography is definitely indicated especially in cases of closed kidney with a vesical neoplasm

The most important group of cases from the diagnostic standpoint are those with renal hæma*turia in the absence of renal enlargement or vesical* implants The presence of infection or stone does not exclude the possibility of a papillary tumor as papillary tumors are complicated *by stone in 7 per* cent of the cases and often by simple infection Massive hæmorrhage from a stone bearing kidney is always suggestive of a complicating neoplasm In rare instances renal tuberculosis causes *intermittent gross hæmaturia occurring in attacks separated by* many years In such cases the infection often fails to show the usual tendency to involve the lower urinary tract

In very early cases of renal tuberculosis with gross *hæmaturia insignificant pyuria* a normal bladder and no demonstrable tubercle bacilluria the differentiation from papillary neoplasms is dependent almost *wholly upon the demonstration* of cavitation in the apices of the pyramid

Papillary tumors of the renal pelvis may or may not cause diminution in the *function of the involved* kidney The kidney which bleeds without evident *cause producing* the so called essential hæmaturia may or may not show dysfunction Therefore in *the* differentiation of these conditions pyelography while not infallible is of paramount importance

The mechanics of neoplastic distortion of the renal pelvis include chiefly pressure from without, *traction on the calyces distention* and distortion due to *neoplastic pressure* and ulceration from within dilatation of part or all of the pelvis due to urinary obstruction caused by the tumor *and various de*grees of obliteration of the pelvis by a neoplasm originating either within the pelvis or invading the cavity from without Parenchymal *tumors* especially the hypernephromata which are more or less *encapsulated* usually cause pressure deformities of the true pelvis long before the actual invasion of the cavity occurs and at *the same time* produce elongation *and narrowing of the calyces* through traction and pressure The resulting spider leg deformity is the most characteristic urographic picture caused by a renal neoplasm

In some instances parenchymal neoplasms especially the rare tubular carcinomata but also hypernephromata originating in the medullary portion of the kidney cause early obliteration of one or more calyces and through early invasion of the true pelvis produce filling defects which cannot be differentiated in the pyelogram from those caused by primary intrapelvic growths

Neoplastic foreign bodies such as large invisible stones or blood clots may cause filling defects which cannot be distinguished from those caused by intrapelvic tumors

In some instances misinterpretation of pyelograms has been due to associated stone shadows while in several reported cases a papillary growth contained in a hydronephrotic sac failed to reveal itself by a filling defect

In cases of intrapelvic tumors there are no characteristic deformities comparable with those caused by hydronephroma but in the majority of cases an irregular filling defect of the true pelvis is associated with dilatation of some of the calyces usually those situated at the upper pole There may or may not be obliteration of certain calyces or regular distention due to pressure from a neoplasm originating within the calyx but the elongation and narrowing of one or more calyces with effacement of the terminal cupping so characteristic of hypernephromata is never caused by primary growths of the renal pelvis

Papillomata of moderate size situated in a capacious pelvis at a point removed from the ostia of the calyces and ureter cause only a circumscribed filling defect comparable in size with the tumor

Tumors originating from the pelvic walls near the ostium of a calyx may cause dilatation or obliteration of the cavity of the calyx A tumor situated at the ureteral junction causes hydronephrosis but a filling defect representative of the tumors is often demonstrable

Large papillary growths may fill the true pelvis and calyces almost completely the small remaining spaces between the tumor masses being represented in the pyelogram by small irregular patches and streaks

C Travers Stepita M D

BLADDER URETHRA AND PENIS

Papin E The Treatment of the Tuberculous Bladder After Nephrectomy (Traitement de la vessie tuberculeuse après la nephrectomie) *Arch d mal d reins et d organes genito urinaires* 1929 iii 451

Nothing varies more markedly than the course of bladder lesions following nephrectomy for tuberculosis When the lesions are most extensive nephrectomy is often followed by rapid amelioration but in some cases the disease of the bladder is little influenced The author discusses the methods of treatment in cases of the latter type

1 Instillations Instillations rather than lavages should be used because a painful bladder must never be distended A 1 10 000 or 1 20 000 (Guyon) solution of bichloride of mercury sometimes proves sufficient Phenol in a 3 to 6 per cent solution (Rovsing) has not given brilliant results Medicated oils (5 per cent iodoform 5 per cent guiacol 10 to 20 per cent gomenol) often have a beneficial effect in mild cases The use of the Bulgarian bacillus should probably be abandoned as the same effects may be obtained by other means The injection of iodine vapor (obtained by heating iodoform) has only a transient effect and has been used to facilitate cystoscopy It has been replaced by more simple procedures Most important is the instillation of methylene blue While this is not curative as has been claimed it is the best palliative measure when a spontaneous cure is possible The instillations should be given daily over a long period Even when the clinical benefit is very prompt the bladder lesions seem little altered Other dyes (acriflavine gentian violet mercurochrome) have been tried but none is as effective as methylene blue

2 Endoscopic treatment This method is suitable only when the lesions are localized and the bladder can be moderately distended Fulguration or caustics may be applied Fulguration is most effective on discrete tubercles When it is applied to diffuse red plaques its effects are good Its effects on ulcerations are mediocre but still worth while The application of caustic substances is possible only in the lower part of the bladder but it is here that the lesions are usually found The author employs trichloracetic acid spreading it over the lesion through a ureteral catheter Crystallized trichloracetic acid is melted over a lamp and a few drops of glycerine are added to prevent recrystallization With the catheter in contact with the lesion the acid is injected with a 5 c cm syringe manipulated by an assistant The technique and the effects are illustrated The treatment is followed by thorough irrigation of the bladder with water From two to six treatments given at intervals of from two to four weeks are usually sufficient

3 X ray therapy In women any beneficial effects from X ray therapy are probably due to the arrest of menstruation

4 Heliotherapy and treatment with ultraviolet light The effects sometimes remarkably good are in direct through improvement of the general condition

5 Cystostomy In general cystostomy is a poor operation in vesicorenal tuberculosis Ureterostomy or temporary nephrostomy are to be preferred Following cystostomy the patient often continues to suffer intensely However the results of vaginal cystostomy are interesting as a drain (the source of much of the pain) is unnecessary A certain amount of continence is often acquired by nulliparæ

6 Denervation of the bladder This operation based on the interesting studies of Rochet and Thevenot is very difficult and has not given practical results

7 Sphincterotomy Rochet seems to have obtained favorable results from sphincterotomy

8 *Enlargement of the bladder by means of a segment of intestine* Strassmann of Berlin enlarged the bladder with a segment of the sigmoid colon The bladder distress was relieved but the patient suffered renal pain Operations of this type have been successfully performed by Schiele and Birnbmann but the author regards them as mere surgical curiosities He reports a case of spontaneous rectovesical fistula producing a similar effect

9 Exclusion of the bladder This is the treatment of choice when the tuberculosis of the bladder appears incurable There are three methods nephrostomy implantation of the ureter in the intestine and implantation of the ureter in the skin Nephrostomy is practicable only when the kidney is healthy The oldest method is anastomosis of the ureter with the intestine (Chaput 1894) The technique is difficult and the mortality from peritonitis and anuria is high The author therefore prefers iliac ureterostomy Ureterostomy (lumbar) was first done by Rovsing Fenwick Peterkin and Lower Key Rosenkranz and the author have developed the iliac form The technique is as follows

A vertical incision is made with its mid point two fingerbreadths medial to the anterior superior spine of the ilium At the level of the spine the incision curves medially to become parallel with Poupart s ligament The total length is about four finger breadths The muscles may be sectioned or simply separated down to the peritoneum The peritoneum is retracted upward and inward to expose on its posterior surface first the spermatic or utero-ovarian vessels and then the ureter A segment of 3 or 4 cm is freed from the peritoneum and sectioned as low as possible between a clamp and ligature A catheter is placed deeply in the ureter and the wound closed by layers with care not to compress or kink the ureter which should hang freely from the wound The free end of the ureter may be allowed to slough or may be covered with a cutaneous tube to facilitate the application of an apparatus

Thirteen case histories are given in detail All of the patients made good recoveries Two patients operated two and six years ago respectively are completely cured ALBERT F DE GROAT M D

Young H H Malignant Tumors of the Bladder and Prostate *Im J Surg* 1929 vi 667

The author reviews the methods which he has found most satisfactory in the treatment of malignant tumors of the bladder and prostate

He states that the most important parts of a bladder tumor microscopically are the pedicle and base The best tissue for examination is procured from the base of the neoplasm with the cystoscopic rongeur

In the author s cases of infiltrating and malignant tumors thorough resection has proved best In cases of tumors of the base the best results have been obtained from the use of the cautery and the next best results from the intravesical implantation of radium In the treatment of recurrences endovesical fulguration and radium applications have been successful

In cases of papillary tumors of the bladder either malignant or benign the best results have been obtained from electrical applications (fulguration or electro-coagulation) combined with endovesical cystoscopic applications of radium The technique of the endovesical application of radium directly to the tumor by means of the author's radium applicators is described in detail With these instruments and a charting system it is possible to prevent radium burns

In cases of infiltrating malignant tumors of the bladder radical resection when it can be done safely combined with fulguration and the endovesical use of radium has resulted in cures which formerly it would have been impossible to obtain by surgical methods

Statistics show that about 20 per cent of elderly men requiring treatment for obstructive conditions of the prostate are suffering from carcinoma In one half of the author s cases hypertrophy of the prostate was also present obscuring the diagnosis The presence of thickening and hard induration is best determined by palpation of the suburethral portion of the prostate upon a cystoscope in the urethra Hard encapsulated areas of the prostate should be suspected. In some cases the roentgenogram will differentiate a phlebolith or calculus If the diagnosis is still doubtful after roentgen examination exposure through the perineum with biopsy is desirable

In cases of carcinoma of the prostate in which the condition is at all favorable the radical operation is indicated The capsule of the prostate with the neck of the bladder a large part of the trigone the seminal vesicles and the ampullæ of the vasa deferentia should be removed in one piece Seventy two per cent of the author s patients subjected to this radical operation have survived for from seven to thirteen years without recurrence of the carcinoma and many of them have no incontinence

The implantation of radium through perineal and suprapubic wounds has not been successful

The treatment of carcinoma of the prostate by the application of radium through the rectum and the urethra is to be considered only as a palliative measure for the relief of hæmaturia and urinary obstruction The technique of the radium application is described and illustrated

The introduction of radium needles through the perineum or bladder has not proved successful

Conservative or partial resection of the lateral and median lobes of the prostate to remove obstruction when lateral hypertrophy of the prostate is associated with carcinoma of the posterior portion has proved very satisfactory in cases in which a radical resection was not indicated

The author believes that the punch operation has an important place in the treatment when hypertrophy of the lobes of the prostate is not present

Young s records include twenty cases of sarcoma of the prostate and its adnexa In this condition the results of operation were poor but those obtained by the application of radium through the rectum and

urethra combined with deep roentgen ray therapy were excellent

The author concludes that in the past ten years great progress has been made in the early diagnosis and cure of malignant tumors of the bladder and the prostate Radical surgery has been very beneficial in selected cases but the greatest benefit has been obtained from endovesical treatments with high frequency electrical applications and endovesical urethral and rectal applications of radium

J EDWIN KIRKPATRICK M D

Puhl The Roentgen Diagnosis of Urethral Affections (Die Roentgendiagnose der Harnrohrenerkrankungen) *53 Tag d deutsch Ges f Chir* Berlin 1909

The best contrast medium for the roentgen diagnosis of urethral affections has not yet been definitely determined At the Kiel clinic umbrenal has been used instead of iodipin during the past two years

There are two basic types of examination of the urethra the anterior examination and the micturition examination For the anterior examination umbrenal is used in a dilution of 1 3 The micturition examination is best made after a considerable pause in urination in the presence of urinary pressure Defects in the contour at the base of the bladder such as are seen in endovesical prostatic hypertrophy are recognized early and may lead to considerable deformity The elongation of the posterior urethra in hypertrophy of the lateral lobes of the prostate is shown definitely in the anterior view The presence of a stone and its localization are readily demonstrated as are also abnormal dilatations such as diverticula The roentgen examination is of particular importance in the differentiation between organic and functional bladder disturbances In the former the findings in the anterior picture are similar to those in micturition examinations Strictures in the anterior urethra are characterized by a filling defect The author distinguishes the following four types of stricture

1 The bead like constriction located chiefly in the pars cavernosa This results from induration of Littre s glands and is a postgonorrhœal condition

2 The type located in the pars bulbosa This is usually of only moderate extent with a narrow lumen and irregular serrated edges

3 The smooth walled filiform stricture limited to the anterior urethra or extending from the anterior to the posterior urethra This is usually of traumatic origin

4 The catarrhal stricture with a wave like outline which does not produce such high grade obstruction

Constriction of the lumen of the posterior urethra has not been observed by the author Roentgen examination shows that the changes in the posterior urethra are considerably different The micturition examination shows that in narrow and localized strictures of the anterior urethra the condition of the posterior urethra may be different As long as the muscular powers of the posterior urethra are not weakened or compensatorily hypertrophied dilatations are not observed With increased stasis and weakness of the muscular powers there arises the syndrome of muscular insufficiency of the posterior urethra which may assume the characteristics of bladder involvement Injections appearing in the obstructed area lead to a breaking down process in the region of the prostate and the dilated glandular excretory ducts and are shown in the roentgenogram by shadow spots and winding excretory ducts In this manner the posterior urethra may become sclerotic and the syndrome of abscess formation on infiltration stricture may develop

The same changes even to diverticulum formation are seen in primary infectious processes of the posterior urethra They are of importance in the question of the cure of chronic gonorrhœa and sterility Such cavity formations are seen also in cases of bilateral specific tuberculous affections but not hæmatogenous affections of the prostate

STETTINER (Z)

GENITAL ORGANS

Cammidge P J Prostatectomy in Diabetes *Proc Roy Soc Med* Lond 1909 xxii 1021

One of the most serious disorders from the surgeon s standpoint which may be encountered in patients with hypertrophy of the prostate is diabetes mellitus a condition particularly apt to develop after middle life Although prostatic hypertrophy usually develops about ten years later than diabetes the one condition is not infrequently found as a complication of the other In elderly persons the glycosuria is almost invariably insidious in its onset and of slow progress so that it is present for a considerable time before it attracts attention or is discovered accidentally during routine examination One of the earliest signs of diabetes particularly in men is frequency of urination but as this is also a sign of prostatic hypertrophy with which the diabetes may be associated the glycosuria is easily overlooked until urinalysis made before prostatectomy reveals its presence As a rule the amount of sugar passed is not large and as the glycosuria is almost always due to defective storage instead of inability to utilize carbohydrate it is readily controlled by dietary restrictions

With our present knowledge of the defects of carbohydrate metabolism and the means of preventing and correcting them operations can be performed on diabetics with no more risk than on other patients provided adequate pre operative and postoperative treatment is given In order to prevent coma it is necessary to eliminate as completely as possible the responsible source of the toxic intermediate products of metabolism increase the power of the tissues to store and utilize the maximum amount of carbohydrate and supply carbohydrate that can be easily digested and absorbed in sufficient quantity for the needs of the body

8 Enlargement of the bladder by means of a segment of intestine Strassmann of Berlin enlarged the bladder with a segment of the sigmoid colon The bladder distress was relieved but the patient suffered renal pain Operations of this type have been successfully performed by Schiele and Birnbmann but the author regards them as mere surgical curiosities He reports a case of spontaneous rectovesical fistula producing a similar effect

9 Exclusion of the bladder This is the treatment of choice when the tuberculosis of the bladder appears incurable There are three methods nephrostomy implantation of the ureter in the intestine and implantation of the ureter in the skin Nephrostomy is practicable only when the kidney is healthy The oldest method is anastomosis of the ureter with the intestine (Chaput 1894) The technique is difficult and the mortality from peritonitis and anuria is high The author therefore prefers iliac ureterostomy Ureterostomy (lumbar) was first done by Rovsing Fenwick Peterkin and Lower Key Rosenkranz and the author have developed the iliac form The technique is as follows

A vertical incision is made with its mid point two fingerbreadths medial to the anterior superior spine of the ilium At the level of the spine the incision curves medially to become parallel with Poupart s ligament The total length is about four finger breadths The muscles may be sectioned or simply separated down to the peritoneum The peritoneum is retracted upward and inward to expose on its posterior surface first the spermatic or utero-ovarian vessels and then the ureter A segment of 3 or 4 cm is freed from the peritoneum and sectioned as low as possible between a clamp and ligature A catheter is placed deeply in the ureter and the wound closed by layers with care not to compress or kink the ureter which should hang freely from the wound The free end of the ureter may be allowed to slough or may be covered with a cutaneous tube to facilitate the application of an apparatus

Thirteen case histories are given in detail All of the patients made good recoveries Two patients operated two and six years ago respectively are completely cured ALBERT F DE GROAT M D

Young H H Malignant Tumors of the Bladder and Prostate *Am J Surg* 1929 vi 667

The author reviews the methods which he has found most satisfactory in the treatment of malignant tumors of the bladder and prostate

He states that the most important parts of a bladder tumor microscopically are the pedicle and base The best tissue for examination is procured from the base of the neoplasm with the cystoscopic rongeur

In the author s cases of infiltrating and malignant tumors thorough resection has proved best In cases of tumors of the base the best results have been obtained from the use of the cautery and the next best results from the intravesical implantation of radium In the treatment of recurrences endovesical fulguration and radium applications have been successful

In cases of papillary tumors of the bladder either malignant or benign the best results have been obtained from electrical applications (fulguration or electro-coagulation) combined with endovesical cystoscopic applications of radium The technique of the endovesical application of radium directly to the tumor by means of the author's radium applicators is described in detail With these instruments and a charting system it is possible to prevent radium burns

In cases of infiltrating malignant tumors of the bladder radical resection when it can be done safely combined with fulguration and the endovesical use of radium has resulted in cures which formerly it would have been impossible to obtain by surgical methods

Statistics show that about 20 per cent of elderly men requiring treatment for obstructive conditions of the prostate are suffering from carcinoma In one half of the author s cases hypertrophy of the prostate was also present obscuring the diagnosis The presence of thickening and hard induration is best determined by palpation of the suburethral portion of the prostate upon a cystoscope in the urethra. Hard encapsulated areas of the prostate should be suspected In some cases the roentgenogram will differentiate a phlebolith or calculus If the diagnosis is still doubtful after roentgen examination exposure through the perineum with biopsy is desirable

In cases of carcinoma of the prostate in which the condition is at all favorable the radical operation is indicated The capsule of the prostate with the neck of the bladder a large part of the trigone the seminal vesicles and the ampullæ of the vasa deferentia should be removed in one piece Seventy two per cent of the author s patients subjected to this radical operation have survived for from seven to thirteen years without recurrence of the carcinoma and many of them have no incontinence

The implantation of radium through perineal and suprapubic wounds has not been successful

The treatment of carcinoma of the prostate by the application of radium through the rectum and the urethra is to be considered only as a palliative measure for the relief of hæmaturia and urinary obstruction The technique of the radium application is described and illustrated

The introduction of radium needles through the perineum or bladder has not proved successful

Conservative or partial resection of the lateral and median lobes of the prostate to remove obstruction when lateral hypertrophy of the prostate is associated with carcinoma of the posterior portion has proved very satisfactory in cases in which a radical resection was not indicated

The author believes that the punch operation has an important place in the treatment when hypertrophy of the lobes of the prostate is not present

Young s records include twenty cases of sarcoma of the prostate and its adnexa In this condition the results of operation were poor but those obtained by the application of radium through the rectum and

ciently carried out in all such patients before an operation is done If it is defective nucleotid containin foods should be excluded from the diet and the protein intake should be reduced to a low level When there is hepatic insufficiency thoroughly dextrinized starchy foods are particularly beneficial and should be given in considerable quantity if necessary with sufficient insulin to ensure their complete utilization In addition an abundance of water and other fluids is indicated to assist the excretion of waste products by the kidneys Calcium salts are given to promote the elimination of harmful acid products Defects of protein metabolism are often associated with renal insufficiency When this is the case a diet consisting almost entirely of carbohydrates and the administration of suitable dose of insulin are advisable for a few days before the operation A saltless diet and free action of the bowels improve the renal function For a day or so before the operation the amount of solid food should be reduced to the minimum the chief food should be fruit juices and glucose and a corresponding amount of insulin should be given

The preparation for operation of the patient with advanced diabetes and serious disturbance of carbohydrate fat and protein metabolism marked glycosuria high blood sugar excess of acetone in the blood and urine and abnormal protein derivatives in the blood is most difficult but is not hopeless provided sufficient time can be devoted to it The metabolic defects must be brought thoroughly under control before operation is undertaken Usually treatment with diet and insulin is necessary for at least two or three months

One of the chief causes of danger in operations on diabetics is the anæsthetic The anæsthesia should be as short as possible Operation performed in two stages with an intervening interval is borne better than operation performed in one stage Chloroform should never be used Ether is somewhat less harmful but nitrous oxide oxygen and spinal anæsthesia are best When serious alkalipænia is likely to develop an intravenous injection of glucose with a corresponding dose of insulin should be given immediately after the operation

For at least three or four days after the operation the diet should be free from fat but thereafter greater latitude may be permitted When the operation is performed in two stages the amount of fat in the diet should be *strictly limited* in the interval between the stages Carbohydrate including glucose and fruit juices should constitute the bulk of the diet and sufficient insulin should be administered to maintain the blood sugar as nearly normal as possible After the prostatectomy blood analyses should be made frequently When adequate preoperative treatment has been given there is little likelihood of the development of serious acidosis A wise precaution is the determination of the carbon dioxide combining power of the blood plasma or the estimation of the carbon-dioxide tension of the alveolar air at least once daily This is advantageous especially in the presence of chronic intestinal catarrh defective liver or kidney function and complications such as diarrhœa vomiting persistent constipation and oliguria Usually an acidosis results but occasionally an alkalosis may develop In either case prompt treatment is essential

Early acidosis can generally be controlled by suitable dietetic regulations and the cautious administration of alkalies but it is safer to begin treatment with an intravenous injection of about a liter of warm 10 per cent glucose solution at a rate not exceeding from 200 to 300 c cm per hour and the subcutaneous administration of 10 units of insulin at once and at hourly intervals until from 30 to 40 units have been given Simple diabetic acidosis responds quickly and a relapse is prevented by the glucose but when the condition is not entirely dependent upon the formation of ketone bodies the effect produced by a single injection is comparatively slight and evanescent Under the latter circumstances the intravenous injection must be repeated once or twice a day for several days If treatment is not begun until the plasma bicarbonate has been greatly reduced and the electrolyte concentration of the tissues has been materially depleted an alkali should be added to the injection fluid The best alkali is sodium bicarbonate but the reaction of the injection fluid should be as near as possible to that of the blood (pH 7 4)

The clinical symptoms of alkalosis are at times not unlike those of acidosis but they should be differentiated because the treatment of the one condition is dangerous for the other Alkalosis may be due to too vigorous alkali therapy but more often it is the result of intestinal obstruction The carbon dioxide combining power of the plasma and the non protein nitrogen of the blood are increased the blood chlorides are diminished and there is absence or pronounced reduction of the urinary chlorides and possibly a positive acetone reaction However too much reliance should not be placed on the carbon dioxide combining power of the plasma The lowered chloride content of the blood and urine and the increase in the non protein nitrogen of the blood are safer guides The best treatment is the removal of the cause but as a palliative measure a 3 per cent sodium chloride solution may be injected subcutaneously or intravenously at intervals until the chloride content of the blood returns to normal

LOUIS NEUWELT M D

Sargent J C The Interpretation of the Seminal Vesiculogram *Radiology* 1929 xii 472

In a series of over 200 vas injections mild epididymitis and slight induration of the cord at the site of the injection occurred in a few instances In none of the cases followed up did sterility result Thymol iodide in cod liver oil was used The pictures were taken at an angle with the target over the umbilicus

The cases were classified as (1) normal (2) acute gonorrhœa complicated by epididymitis (3) acute and chronic rheumatism of seminal vesicle origin (4)

The first requirement is met by limiting the intake of protein and reducing the fat in the diet to the minimum The second is met to some extent by the same measures since an excess of fat besides being a potential source of toxic derivatives in a diabetic interferes with the storage and utilization of carbohydrate Therefore a short period on a fat free diet generally results in increased carbohydrate tolerance In a few cases the glycosuria ceases after such restrictions but as a rule some limitation of carbohydrate is necessary in addition before the sugar in the urine and blood is reduced to the normal limits The improvement from such dieting although adequate for ordinary purposes of life is rarely sufficient to bear the extra strain of an operation Hence it is always advisable to increase the storage capacity to the desired extent by the administration of insulin for a short period at least before and after the operation If necessary all of the energy requirements of the body can be supplied temporarily by glucose Diabetics who are carefully prepared recover from operations as well as and often more quickly than many non diabetics

Because of the patient's age and the secondary effects of the prostatic hypertrophy special precautions are necessary to prevent postoperative complications The presence of glycosuria should lead to an investigation of the metabolism as a whole to determine whether there is any other metabolic defect before the patient is subjected to the strain of anæsthesia and operation At the same time the nature and extent of the defect in the carbohydrate metabolism can be estimated and the treatment necessary to control it can be determined In the author's cases a general chemical analysis of the blood is made after an eight or ten hour fast 50 gm of glucose are then given as a rule and thereafter the blood is examined at intervals of a quarter of an hour for two hours If the blood sugar is high a meal containing from 40 to 60 gm of starch is substituted for the glucose and the blood examinations are continued for four hours In either case the urine excreted during the test is collected and the findings made in its analysis are compared with those of the blood analysis A complete twenty four hour collection of urine is also made while the patient is on a test diet and a specimen of fæces is subjected to chemical and microscopic examination These investigations furnish accurate data for a complete survey of the metabolism

The effects of variations in the blood volume upon the percentage composition of the blood are not sufficiently appreciated Some persons dilute their blood after a meal while others concentrate it Therefore unless an allowance is made for the changes in volume which may amount to from 30 to 40 per cent the conclusions drawn may be very erroneous The same is true of conclusions drawn from odd samples of urine and quantitative results expressed in percentages

As a rule little attention is paid to the fæces This is unfortunate as stool examination often reveals abnormalities of digestion and absorption which may delay smooth recovery from an operation Many elderly diabetics suffer from intestinal disturbances which accentuate their metabolic defects As these disturbances frequently produce no obvious symptoms examination of the fæces should be part of the routine examination

In some cases the patient is suffering from a simple anapothectic glycosuria without secondary changes or complications In such cases all that is required in preparation for operation is a few days on a diet low in fat supplemented by the administration of from 80 to 100 gm of carbohydrate daily and sufficient insulin to maintain the blood sugar within the normal range Usually 1 unit of insulin is required for each 2 gm of carbohydrate in the diet in excess of the normal tolerance Occasionally however much more will be needed to reduce the blood sugar to normal and render the urine free from sugar because a part of the injected insulin combines with the internal secretion of an abnormally active pituitary to form a loose compound which is inert at the average reaction of the blood If sufficient insulin is injected to compensate for the deficiency so caused there is always the risk of pituitary exhaustion with sudden hypoglycæmia collapse and death from heart failure It is therefore safer to proceed cautiously with moderate doses than to induce a rapid reduction in the blood sugar with large doses of insulin The insulin also increases the amount of urinary secretion through its action on the pituitary In cases of prostatic hypertrophy this may cause much discomfort Sometimes it subsides spontaneously but if not the insulin should be stopped and operation should be done as soon as possible

Particular care should be taken in preparing elderly diabetics who are fat as excess fat is a potential source of the derivatives giving rise to coma In the cases of such patients a more prolonged course of dieting is required than in others to reduce the weight to at least the average level Although there may be no acetonuria there is an acetonæmia and when dieting is begun a pronounced acetonuria may develop This can always be controlled by the administration of additional carbohydrate and insulin If possible an increase in the amounts given should be avoided until the weight has been reduced to the required level and then only enough should be administered to secure sufficient stores of glycogen for the requirements of the operation

Efficient protein metabolism is also dependent to some extent upon the adequate storage and utilization of carbohydrate but defects of protein metabolism require additional measures The diagnosis of such defects at least in their early stages depends almost entirely upon an increase in the amino-acid nitrogen uric acid and neucleotid nitrogen of the blood An excess of amino acid nitrogen in the blood is particularly important as diabetic coma may be wholly or partially caused by amino-acid poisoning especially in elderly persons Hence it is necessary to make sure that protein metabolism is effi

zoate of which a smaller amount is required The ammonium ion is converted into urea by the liver and the liberated benzoic acid forms new potassium and sodium salts which tend to cause an increase in the hydrogen ion concentration of the blood To prevent this more acid sodium phosphate is excreted and the acidity of the urine is again increased

Hexyl resorcinol is believed by some to be by far the most powerful germicide known It can be administered by mouth It is non toxic in therapeutic doses non irritating to the urinary tract so stable that it is excreted unchanged in the urine and effective whatever the reaction of the urine Although it will act in alkaline urine it becomes inactive if sodium bicarbonate is given simultaneously because the latter increases surface tension thereby preventing the hexyl resorcinol from penetrating the crevices where bacteria lurk D A Brown has found that it relieves bladder irritation in every type of urinary infection decreasing tenesmus and the frequency of micturition. In about half the cases however there are severe gastro intestinal disturbances Brown gives daily from nine to twelve capsules each containing 0 15 gm of the drug It was necessary to continue the treatment for from seven to thirty days in acute cases and for from thirty to sixty days in chronic cases Brown believes that when there is an associated infection of the kidney substance the prostate the seminal vesicles or the urethra the drug cannot be brought sufficiently into contact with the source of the infection to have much effect The fluid intake should be reduced in order to ensure as high a concentration of the drug in the urine as possible Stockman agrees that it reduces the number of organisms and relieves symptoms promptly but has not found it especially effective in eradicating infection

Salicylic acid is a powerful antiseptic but practically always appears in the urine in the form of salicyluric acid which is almost inert Large doses may produce a dangerous acidæmia Salol appears in the urine as sodium salicylurate and sodium sulphocarbolate which Stockman claims have little antiseptic power Salol may exert its action on the bowel diminishing the absorption of bacillus coli therefrom

Boric acid is a weak antiseptic in both acid and alkaline urine Five grain doses are given in keratin coated capsules to prevent irritation of the stomach In conjunction with salol it relieves symptoms of chronic bacillus coli infections

Acriflavine has been given in 1 5 gr doses in keratin capsules *In vitro* it is more bactericidal in alkaline than in acid urine

Copaiba and sandalwood oil sometimes relieve symptoms and diminish the organisms in bacillus coli infection but are most effective in gonococcal cystitis

One of the most important steps in the treatment of an acute infection of the urinary tract is the changing of the reaction of the urine Alkalinization of the urine is best obtained with potassium citrate and sodium bicarbonate and acidification with ammonium chloride calcium chloride and acid sodium phosphate It may be necessary to change the reaction more than once In acute infection alkaline urine is more tolerable to the patient than acid urine The drinking of large quantities of water may be helpful but is contra indicated when urinary antiseptics are administered as it may cause too great dilution of the drug

There is still much discussion as to the value of vaccines Brown believes that they never render the urine sterile but that they may help to relieve toxæmia They seem to be more effective in coliform than coccal infections

LAVAGE FROM BELOW

Brown has occasionally seen marked benefit from lavage of the bladder with antiseptic solutions the treatment of patches of chronic inflammation in the bladder with silver nitrate and irrigation of the renal pelvis through the ureteral catheter He believes that in all cases of urinary infection which do not improve quickly under ordinary medical measures a cystoscopic examination should be made and the ureters catheterized to determine whether a mechanical difficulty is present and to discover possible evidence of tuberculosis which is the primary cause of various secondary infections

DUKES states that expectations regarding the bactericidal powers of antiseptics added to urine *in vitro* are far from realized *in vivo* and that there is a striking contrast between the statements of pathologists regarding antiseptic coefficients and clinical evidence Apart from the fact that the environment in the body is different from that in the test tube the disagreement in clinical testimony is due to the miscellaneous character of the cases included both curable and incurable affections diseases of long and short natural duration and even pyuria of uncertain origin

The ideal conditions for a study of the influence of urinary antiseptics are infections developing at a known date in patients with an otherwise healthy urinary tract which if untreated will have a predictable duration Dukes studied twenty eight cases of catheter cystitis In none of seven cases treated with hexyl resorcinol (caprocol) was there any evidence of immediate cure In two cases which showed slight improvement the infection was mild with little pus and no bladder symptoms In both the pus disappeared after four weeks which is *the natural duration* of the disease in favorable cases In the five other cases no benefit was derived from the treatment In twelve cases treated with hexamine it was found that when doses of 10 gr of hexamine 30 gr of acid sodium phosphate 15 minims of tincture of hyoscyamus and 1 oz of infusion of buchu were given three times a day hexamine could always be recovered unchanged from the urine but the degree of acidity necessary for the liberation of formaldehyde was reached and maintained in only a small minority of the cases Only one patient showed definite improvement Most of the patients complained

chronic gonorrhœal prostatitis and vesiculitis and (5) tuberculosis of the epididymis and seminal vesicle

The normal seminal vesicles resemble each other in the delicate details of the cellules The normal vesicle empties itself within from two to five days The normal and the pathological vesicle are shown in 16 vesiculograms

Vesiculitis due to recurrent gonorrhœa showed a retention of 50 per cent at the end of nine days In a case complicated by arthritis there was retention of 25 per cent after three weeks Another case showed retention at the end of four months These 3 cases demonstrated obstruction at the vesical neck or of the ejaculatory duct

Occlusion of the vas was found in a case of acute gonorrhœal epididymitis and a case of bilateral epididymitis due to tuberculosis It occurs most often at the coil in the vas as it leaves the lateral pelvic wall

Deviations from the normal consist in constriction or dilatation of the vesicle In cases of dilatation of the ampulla and ejaculatory duct epididymitis was an outstanding feature Dilatation of part or all of the seminal vesicle usually has its origin in subacute inflammation associated with arthritis

Contraction of the vesicle is of 2 types One type is the contraction due to acute swelling of the mucosa *in acute gonorrhœa with epididymiti* The other is a true sclerotic contraction of the vesical wall the result of continued inflammation

The series of vesiculograms made in cases of tuberculosis of the vesicle ranged from one which was normal to one which showed nearly complete obliteration of the vesicle In one case of suspected tuberculosis the condition may have been an abscess communicating with the vesicle

Various anatomical anomalies were found

The author draws the following conclusions

1 *The normal vesiculogram is constant*

2 Dilatation of the vesicle in chronic vesiculitis is probably atonic in nature and not permanent if the inflammation subsides

3 Dilatation of the ampulla of the vas or the ejaculatory duct is the result of organic stricture and is permanent if present to any degree Diminution in the cavity of the vesicle is constantly found in acute gonorrhœal epididymovesiculitis The change is temporary

4 Contraction of the wall of the vesicle even to the *point of obliteration* is seen in chronic gonorrhœal and tuberculous vesiculitis

5 Abscess of the vesicle is *visualized*

6 Obstructions of the *seminal tract and anomalies* are demonstrated CLAUDE D PICKRELL M D

MISCELLANEOUS

Brown W L Dukes C Hamill P Jeans F A and Others Discussion on Urinary Antiseptics *Proc Roy Soc Med* Lond 1916 xvii 11 7

BROWN states that urinary antisepsis may be attempted by (1) intravenous therapy (2) the oral administration of drugs and (3) lavage of the urinary tract from below In some cases these measures must be supplemented by vaccines and the *clearing* up of septic foci

INTRAVENOUS THERAPY

Mercurochrome has been used most widely for intravenous therapy Braasch and Bumpus found *however that* a dose of 4 mgm per kilogram of body weight in a 1 *per cent solution was frequently* followed by rigors vomiting and diarrhœa and even by death They concluded that the intravenous administration of mercurochrome should be done only in emergencies but that in acute sepsis when other measures fail it may be given a trial The number of spectacular recoveries following its use excludes coincidence *Helmholz and Field concluded from experiments* that hexamine is superior to both mercurochrome and hexyl resorcinol Braasch and Bumpus found that the intravenous administration of 5 c cm of a 10 per cent solution of hexamine repeated daily if necessary for six days speedily reduced fever and other symptoms and had no unfavorable effects

ORAL ADMINISTRATION OF DRUGS

Hexamine is perhaps the best known of the urinary antiseptics Following its oral administration it appears *in the urine in about twenty minutes As it is* inert in alkaline urine it is usually given with acid sodium phosphate There is considerable difference of opinion as to its value *It sometimes produces* hæmaturia In acute *conditions it nearly* always causes intolerable irritation In chronic conditions and after a vigorous course of alkalies in acute conditions it may be more successful To reduce its irritating *effect Brown* usually gives it with methylene blue The methylene blue diminishes not only the subjective symptoms but also the number of organisms and pus cells in a few days although the infection persists

Acid sodium phosphate increases the acidity of the urine and *prevents the alkaline tide after* meals and the slight ammonial decomposition resulting from *bacterial infection though* it cannot correct strongly ammoniacal urine *It is usually given with hexamine* Blaustein claims that in alkaline cystitis both calcium chloride and ammonium chloride are stronger acidifiers of the urine Ammonium chloride is *usually* given in doses of 15 gr three times a day *but in* some cases it may be necessary to increase the quantity to 30 gr every three hours

Benzoic acid is synthesized in the kidney with *glycin and excreted* as hippuric acid. *Hippuric* acid has no antiseptic value but takes up so much alkali as a hippurate that more of the phosphate assumes *the form of an acid phosphate* The ammonia split off from urea by ammoniacal decomposition then combines with this acid salt and *the urine* becomes clear In bacillus *coli infection which is* associated with acid urine this drug is not applicable but in infection accompanied by alkalinity of the urine it has value Stockman recommends *ammonium* ben

zoate of which a smaller amount is required The ammonium ion is converted into urea by the liver and the liberated benzoic acid forms new potassium and sodium salts which tend to cause an increase in the hydrogen ion concentration of the blood To prevent this more acid sodium phosphate is excreted and the acidity of the urine is again increased

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of bladder irritation and increased frequency of urination. The routine use of hexamine as a prophylactic measure did not prevent the development of cystitis.

The antiseptic action of methylene blue is almost negligible. Four cases were treated with methylene blue without benefit.

Alkaline treatment is not antiseptic but is followed by relief of bladder irritability. Patients given such treatment were more comfortable than those who were treated with caprocol, hexamine or methylene blue.

HAMILL states that hexamine and acid sodium phosphate cannot be pushed in the early stages because of the pain. With free drinking of water the condition clears up as quickly as under hexamine treatment. The alkaline treatment renders urination painless and free water drinking is accepted by the patient. Methylene blue renders the patient more comfortable but does not decrease the pus. When flavine is added to the alkali comfort ensues more rapidly. Caprocol produces comfort fairly soon. Little fluid should be given with it. There is no advantage in making the urine alkaline when caprocol is used.

JEANS has found that in renal tuberculosis hexamine irritates the kidneys if there is nothing to counteract it. In a kidney filled with pus the liberated formaldehyde is not irritating.

GARROD reported experiments showing that to arrest the growth of the bacillus coli the urine must be made strongly acid, which makes the patient uncomfortable.

FEILDEN considers urotropin with acid sodium phosphate and flavine the most important of all urinary antiseptics. Urotropin often exaggerates the symptoms. Feilden has obtained better results with flavine in doses of ½ gr. three times a day after meals. He found it more effective when it was given with alkali.

BARTON believes that in ordinary cystitis the best drug is urotropin. Urotropin is powerless in alkaline urine. Large doses are contra indicated especially at night as they may irritate the bladder. The gastrointestinal discomfort associated with the use of urotropin can be obviated by giving it from one half to three-quarters of an hour before meals rather than with or after meals. Barton disapproves of large doses of hexamine with enormous doses of sodium bicarbonate in bladder conditions because the patient is made more uncomfortable when the bladder is flooded with alkali.

EVERIDGE stated that better results are obtained when hexamine is given some time after the acid sodium phosphate.

GRAHAM reported that he had never noted any benefit from hexamine.

LEPPER stated that in some acid urines hexamine may exert an effect on certain strains of bacillus coli.

JOLY stated that there is practically no antiseptic which is of value at the kidney level. Even in bladder infection the results are on the whole disappointing. Any kidney infection which persists longer than a few months will continue indefinitely and in time will become bilateral, resulting in death.

LOUIS NEUWELT, M.D.

Augé and Bernard. Iliopubic Fracture Due to a Bullet. Secondary Injury of the Bladder. Results of Operation Complicated First by Acute Gonorrhœa and Then by Secondary Vesicoprostatic and Urethral Stones. (Fracture iliopubienne par balle, plaie secondaire de la vessie, suites opératoires compliquées par une blennorragie aiguë, puis par une lithiase vésico-prostatique et urétrale secondaire.) *J. d'urol. méd. et chir.* 1929, xxvii, 304.

The case reported was that of a cavalry officer who was injured by a bullet on August 20, 1925. The entrance wound was in the middle of the left buttock and the exit wound about a finger's breadth above Poupart's ligament on the left side and 2 cm. within the vessel sheath. As there were no urinary symptoms the patient was sent to a hospital back of the lines. He was able to urinate spontaneously but was suffering from acute gonorrhœal urethritis.

On August 26 the dressing was found wet with urine which had come from the wound of exit of the bullet. Roentgen examination showed a fracture of the iliopubic and ischiopubic branches on the left side near the symphysis with very sharp fragments. Following the introduction of a sound into the bladder through the exit wound the temperature fell.

At operation performed on September 11 the bone fragments were removed, the bone was curetted, the bladder wound was sutured and a catheter was inserted through a cystostomy opening. Later two attempts were made to substitute a retention urethral catheter but the gonorrhœal urethritis became so acute that this was impossible. The suprapubic drain was finally removed and a retention catheter inserted on March 6. Irrigation of the bladder was then done through the retention catheter. During June the patient developed a focus of periurethritis and an abscess of the scrotum which required evacuation. In July the bladder was opened for the removal of a bone fragment and on March 19, 1927, an operation was performed for the removal of stones from the urethra and bladder. After recovery the patient was able to urinate normally. When he was last seen in February, 1929, he had resumed his cavalry service and was entirely free from urinary symptoms.

AUDREY G. MORGAN, M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES TENDONS ETC

Jaffe H L The Structure of Bone with Particular Reference to Its Fibrillar Nature and the Relation of Function to Internal Architecture *Arch Surg* 1929 xix 24

Coarse fibered or primary bone is the type present in the fetus and the newborn It is gradually replaced by the finer fibered adult bone and by the fourth year has disappeared It is present also in osteogenetic sarcoma in the early callus of bone repair and at the points where tendons are attached to bone

In structure it consists of closely meshed interlacing and anastomosing fiber bundles in which bone cells are embedded irregularly The haversian canals lie in a general longitudinal direction but are irregular in size and shape The bone cells are larger and the haversian canals wider than those of adult bone

The method of formation of the calcified portion of coarse fibered bone seems to be still unknown Some believe that the calcium is deposited between the fibers independently of the osteoblasts Others hold that primary bone develops everywhere from the mesenchyme through the medium of the osteoblasts The author holds the latter view

Fine fibered or lamellar bone replaces the coarse fibered bone at about the fourth year of age and by the eleventh year there is no further change the adult structure having been reached The vascular spaces in this structure are larger and more numerous near the epiphyseal lines and near the periosteum along the shaft Shortly after birth osteoblasts penetrate the coarse fibered bone and lay down concentric deposits of bone forming the haversian system This process seems to take place earliest near the center of the shaft since the haversian systems are more compact in that region The compact bone of the cortex is laid down around the blood vessels of the haversian canals and is found in layers deposited by the periosteum and the endosteum

The histological unit of adult bone of the shaft is the haversian canal with its lamellæ This is formed by osteoblastic cells deposited along a central blood vessel layer after layer to replace the primary coarse fibered bone The primary bone is probably not eroded but disappears its elements probably being used to build the new compact bone The lamellæ vary in thickness from 4 to 11 micra The area of anastomosing haversian systems is separated from the periosteum by the outer ground lamellæ and sometimes from the marrow cavity by a layer of inner ground lamellæ

The living bone cells lie in lacunæ between the layers of a haversian system Each lacuna is connected with all neighboring lacunæ by fine canals which furnish a means for the circulation of nutrient fluid from the central artery of the system The ground substance of the bone consists of innumerable fibrillæ with calcium salts impregnated between them The fibrils are similar to those of connective tissue and their general direction is spiral around the haversian canals

The interstitial lamellæ fill in between the haversian systems and are quite similar in structure to the latter The haversian systems are separated from each other and from the interstitial and ground lamellæ by cement lines The separation is not absolute since a few canaliculi penetrate the cement lines and establish a communication between the systems The anastomoses are important in the growth of the formed bone

Sharpey fibers are described as bundles of fibrous tissue running more or less obliquely through the entire cortex They are most numerous in primary bone and rather infrequent in adult bone

Spongy bone which makes up the bulk of tissue and carpal bones ribs and vertebræ and the ends of long bones is composed of tubes plates hemispherical spaces and trabeculæ all of which form a network giving maximal strength with minimal weight In the epiphyseal ends of bones the spongy bone predominates over the dense cortical bone

The structure of the trabeculæ is the same as that of the lamellar systems The meshes of the spongy bone support the active cellular bone marrow

Wolff's law of adaptation of structure to function has been accepted for many years by most general and orthopedic surgeons The best example of this law is the lines of the trabeculæ in the neck of the femur Wolff showed that these lines conform to the directions of greatest stress He concluded that it was a purely mechanical principle but anatomists and embryologists contend that the phylogenetic and hereditary factors are the most important Every tissue seems to have an innate architecture which is followed in the growth of that tissue even when it is transplanted to an abnormal location

WILLIAM A CLARK M D

Burke G R Hereditary Deforming Chondrodysplasia (Multiple Cartilaginous Exostoses) A Report of Three Cases in One Family *J Bone & Joint Surg* 1929 xi 570

The author reports the occurrence of multiple exostoses in a son and two daughters of one family The mother had died during an operation for the removal of a tumor diagnosed as a malignant osteochondroma of the scapula The father showed no

evidence of chondrodysplasia As the inheritance of deforming chondrodysplasia is usually immediate from the parent and as no cases of transmission through an unaffected male have been reported the author assumes that in his cases the condition was inherited from the mother

Ehrenfried states that the most frequent and serious complication of hereditary deforming chondrodysplasia is the development of a rapidly growing or malignant osteocartilaginous tumor in one of the exostoses He estimates that this complication has occurred in about 5 per cent of the reported cases The change *may develop between the ages of eleven* and fifty nine years but it usually occurs soon after *the cessation of skeletal growth that is between the* ages of twenty five and thirty five years

According to the author it is perhaps significant that only one of the three young persons whose cases *he reports complained of symptoms and it was* doubtful whether the shooting precordial pain for which this subject sought treatment was attributable to the chondrodysplasia

H Earle Conwell M D

Cecil R L Nicholls E E and Stainsby W J The Bacteriology of the Blood and Joints in *Chronic Infectious Arthritis* *Arch Int Med* 1929 xliii 571

The authors first review the literature on the etiology of chronic infectious arthritis The relationship of focal infection to the disease was pointed out by Billings twenty years ago According to McCrae the organisms do not themselves invade the joints Emberton believes that intestinal infection is responsible for the condition in many cases and that the streptococcus hæmolyticus and streptococcus viridans are the most common organisms In 1913 Hastings used the complement fixation test to determine the organism This method was repeated by Burbank and Hadjopoulos In 1914 Rosenow made cultures of the joints and glands in chronic infectious arthritis Later similar studies were made by numerous other investigators The most common organisms found were the streptococcus hæmolyticus and streptococcus viridans

The study reported in this article was made on seventy eight patients chiefly of the neurotic type *who gave a history of the sudden or gradual develop* ment of pain stiffness and swelling in several joints

The authors suggest for such a study the selection of patients with swelling of the fusiform type in *several joints* From 20 to 30 c cm of blood should be taken for the culture several times preferably *after joint exercise* The original cultures must be kept under observation in the incubator for at least four weeks *and subcultures* should be made every four or five days during this period Before the original *broth flasks* are discarded some of the medium should be centrifugalized and cultures should be made *from the sediment*

A streptococcus was isolated from the circulating blood in 61 5 per cent of the seventy eight cases reviewed Eighty three *and three tenths per cent of* these organisms appeared to be attenuated hæmolytic streptococci *The same type of streptococcus* can sometimes be cultivated from one of the joints *of the same patient This typical strain fulfills* the requirements of Koch s postulate

The authors conclude that the observations made in their study confirm the theory that chronic infectious *arthritis is a streptococcal infection* which is caused in a large proportion of cases by a biologically *specific strain of streptococcus*

Robert V Funston M D

Burckhardt H Tuberculous and Non Tuberculous *Chronic Diseases of the Joints* (Ueber tuberkuloese und nichttuberkuloese chronische Gelenkerkrankungen) *Chirurg* 1929 i 145

The fact that many joint diseases of obscure etiology are believed to be tuberculous when they are not has frequently led to improper methods of treatment on the one hand and a false conception of the value of methods of treatment used in tuberculous arthritis on the other Therefore knowledge of non tuberculous chronic joint diseases is of special importance The incipient states of tuberculosis namely the condition designated as hydrops or fungus are particularly difficult to differentiate but even the caseating and fistulous forms may at times offer difficulties in the diagnosis

Hydrops and fungus (the formation of externally palpable tissue in the joint capsule or within the joint) are not always caused by tuberculosis Perthes disease used to be considered a tuberculous focus of the femoral neck, and even today in its early stages doubt may exist until the nature of the condition is shown in its later stages by the roentgenogram

Among other conditions with a benign course which were formerly considered tuberculous and were diagnosed by the roentgenogram are types of congenital hypoplasia of the hip joint mild types of coxa vara loosened epiphyses at the upper end of the femur and numerous cases of the so-called malacia or epiphyseal necrosis (Kienbock s malacia of the semilunar bone the first Koehler s disease of the scaphoid disease of the head of the second metatarsal bone and the recently described Calve s disease of the vertebræ)

Differentiation from tuberculosis is of great importance also in the group of joint conditions produced by mechanical factors (*internal disturbances* of the joint) These have been studied most extensively in the knee where they occur most frequently They include free joint bodies tearing of the menisci extensive detachments of the joint surface laceration of the cruciate ligaments and similar disturbances of the joint mechanism which cause irritation of the synovia However *there are* a large number of cases of this character in which no history of trauma can be elicited From the absence of such a history has arisen the theory of the non

traumatic genesis of such conditions (osteochondritis dissecans) With regard to the knee joint the author has shown that extraordinarily great force effects may occur without the patients realizing their full extent simply because of the enormous forces produced by the lever action of the powerful muscle pull through the long joint ends

As regards the internal disturbances of the knee joint roentgen studies have advanced our knowledge less than the ever increasing operative interventions in such cases Perhaps we might learn more in this way in the case of the other joints Next to the knee joint the elbow joint has received most attention

A third group of diseases which especially in their beginning stages are easily confused with tuberculosis are conditions which have long been known even as regards the difference in their character from that of tuberculosis and have been fairly well studied viz the gouty joint joint syphilis many cases of arthritis deformans the joint of the hæmophiliac monarticular forms of chronic joint rheumatism and primary chronic osteomyelitis

Finally there is chronic synovitis which cannot be classified in any of the previously known categories Two types of this condition may be provisionally differentiated bilateral intermittent knee joint effusions of non specific nature in which the definitely malignant character of tuberculosis is absent and a condition (also occurring in the knee) which does not at first differ in any respect from beginning tuberculosis in the sense of hydrops and fungus but the non tuberculous nature of which is proved beyond doubt by histological examination of the tissues within the joint guinea pig tests and the further course of the disease

FLESCH THEBESIUS (Z)

Steinmann F and Waegner K Accidental and Occupational Injuries of the Spinal Column from the Carrying of Loads (Unfall und Berufsschaedigungen der Wirbel aeule beim Lastentragen) *Schweiz med Wchnschr* 1929 1 73

Among the occupational injuries caused by the carrying of heavy loads the changes in the spinal column play a much more important part than was formerly believed In the spine the results of a disturbed relationship between functional demand and functional ability are more marked than in the other parts of the motor and supporting apparatus

Among other pathological conditions the authors discuss spondylitis deformans In many cases of this condition a traumatic cause is assumed when the part played by trauma cannot be proved definitely Under such circumstances the spondylitis deformans may be due to influences affecting a latent predisposition more than a trauma in the true sense of the word The authors have seen many cases in which a barely noticed trauma led to the deforming processes in the spinal column in persons who had been carrying heavy loads for years When in such a case a previous inflammatory process can be excluded with some certainty trauma must be considered the cause

Thus there is also the possibility of Kuemmel s spondylitis in a spinal column injured by a slight trauma following too early resumption of work during a pain free interval It may be assumed also that in spondylitis deformans there is a similar pain free interval and that symptoms are produced only by the development of proliferative changes Moreover when we assume that a slight trauma will not lead to the changes described in a normal organism but that there exists a latent tendency as a result of constitutional processes or an existing or passed infection the indirect relationship of the condition to the trauma cannot be disputed The tendency toward disease may be the result of metabolic disturbances cardiac and vascular diseases and infections of a very light nature A staphylomycosis or dental caries is quite sufficient for the development of a hæmatogenic injury of the especially sensitive spinal column

The authors demand a reduction of the loads allowed legally such as has already been proposed frequently by others

Among the conditions which are caused by the carrying of heavy loads the authors include the kyphosis of adolescents in the juvenile asthenic type of person in which the proliferative process is characterized by typical epiphysitis of the vertebræ and the so called rheumatic symptoms the sciaticas and lumbago of load carriers For the latter group the authors have been able by means of roentgenography to demonstrate the most varying causes such as ossification of the interspinal ligament deforming thickenings on the articular processes of the vertebræ etc These vertebral diseases are of two types the ankylosing spondylitis deformans in which the vertebral bodies remain intact and only the small joints are diseased primarily and the spondylitis deformans with primary disease of the vertebral bodies and vertebral disks especially at the upper and lower borders of the former The latter form occurs chiefly in carriers of loads

Special demands are made on the two lumbosacral joints which are under unfavorable static conditions during the carrying of loads and are subjected to strain also during the act of walking by the alternate curving of the lumbar portion of the spinal column These joints may therefore be injured by a very slight misstep In addition a number of anomalies occur in this region such as spina bifida at the fifth lumbar or first sacral vertebra sacralization of the fifth lumbar vertebra or lumbarization of the first sacral vertebra and spondylolysis i e an articular union between the arch and body of the vertebra These anomalies limit the carrying ability of the vertebral column very markedly and lead to its failure when functional demands are made upon it Therefore such conditions as spondylolisthesis for example are not very rare in carriers of heavy loads

DEUS (Z)

Jansen M The Large Brain the Wide Pelvic Girdle and the Outstanding Number of Hip Anomalies in Man (Coxa Vara Coxa Fracta Coxa Plana Coxa Valga Slipping Epiphysis Malum Coxæ) *J Bone & Joint Surg* 1929 xi 461

The author states that the various investigators searching for the cause of coxa plana have limited themselves to tracing the cause of the most obvious sign of the condition viz the softness of the upper end of the femur They either do not mention or do not take into account in their explanation the numerous other phenomena such as rotation of the head of the femur to the horizontal plane the jockey cap form the lateral displacement of the head (head in neck position) the 'chin formation on the inner side of the neck the mesial gap between the socket and head and the depression in the socket roof All of the factors to which the softness of the femoral head has been attributed—circulatory disturbances trauma inflammation, rickets an unknown disease congenital anomalies of the femoral head and endocrine disturbances—taken either separately or in the most diverse combinations fail to account for the phenomena mentioned or are incompatible with them

This statement applies also to the factors suggested as responsible for the changes accompanying coxa plana (either in the same person on the normal side or in other members of the same family) the incipient stage of coxa plana coxa vara coxa fracta slipping epiphysis and malum coxæ as well as the congenital changes (dislocation of the hip spina bifida club foot and other congenital malformations) with which all of these conditions are frequently associated

Grounds have been adduced only for circulatory disturbances (Axhausen Mueller and Phemister) The assumption of an external trauma and of emboli and bacteria as causal agents is opposed by clinical facts but we are justified in assuming an internal trauma as a causal agent of coxa plana because the ever present flattened (widened) hip socket may bring about the slow rotation and the lateral displacement of the femoral head and circulatory disturbances within it Displacement of the femoral head means injury to the cancellous tissue in the femoral neck and subsequent traumatic or repair plasticity

By assuming a too small amnion to be the cause of the flattened hip socket we can understand why in coxa plana the well side is regularly affected why coxa plana often occurs in many members of the same family alternating not only with the other sequelæ of flattened hip socket the nature of which is determined by the greater or lesser degree of feebleness of growth of the skeleton or the intensity of the acting forces but also with congenital malformations occurring in other parts of the body which like the flattened hip socket are in their turn caused by limitation of space brought about by a too small amnion

H Earle Conwell, M D

Lippmann R K The Pathogenesis of Legg Calvé Perthes Disease Based upon the Pathological Findings in a Case *Am J Surg* 1929 vi 785

In the case reported in this article the pre-operative diagnosis was epiphyseal separation At operation the head of the femur was removed and a Whitman reconstruction was done

Microscopic study of the excised femoral head showed a massive subchondral bone and marrow necrosis involving about half of the spongiosa This area was bordered in places by a zone composed of vascular mesenchymatous tissue The epiphyseal line was intact except for one small area of similar reaction tissue In the round ligament extensive œdema and hæmorrhage was found The blood vessels showed obliterative thickening and areas of cellular infiltration On one side of the ligament there was fresh granulation tissue containing distended capillaries

The deformity of the femoral head is secondary to the collapse of the underlying necrotic bone Although vascular occlusion of the lateral epiphyseal vessel and the ligamentum teres seems to be the probable cause of the syndrome local osteomyelitis must also be considered an etiological factor

Rudolph S Reich M D

SURGERY OF THE BONES JOINTS MUSCLES TENDONS ETC

Juvara E Re Establishment of the Continuity of the Femur and Tibia After Resection of One of the Epiphyses Constituting the Knee Joint by Means of a Graft Taken from the Extremity of the Normal One of the Two Bones (Reconstitution de la tige osseuse fémoro-tibiale interrompue par la résection d'une des extrémités osseuses qui constitue l'articulation du genou par une greffe provenant du dédoublement de l'extrémité osseuse opposée) *Bull et mém Soc nat de chir* 1929 lv 541

The operation devised by Juvara is intended to overcome the shortening that results from an extensive semi articular resection of the knee When the lower half of the femur has been resected a massive graft is removed from the tibia to fill the defect and when the upper end of the tibia has been resected the graft is taken from the femur The technique is carried out as follows

Under spinal anæsthesia an incision from 35 to 45 cm is made over the lower half of the femur the knee joint and the upper half of the tibia following the internal border of the rectus femoris patella and patellar tendon and the anterior surface of the tibia just medial to the crest This incision goes to the bone The patellar tendon is detached with a portion of the tubercle

When the lower end of the femur is to be resected it is progressively denuded anteriorly laterally and medially The knee is then flexed the femur dislocated forward by sectioning the ligaments and the posterior surface is exposed The epiphysis is re

ted two finger breadths above the tumor In shaft of the femur an anteroposterior step 3 cm and slightly less than half the thickness of the he in depth is formed The articular surface of tibia is removed with the saw

To determine the length of the graft the leg is ended to give it its normal length and with a mpass the distance is measured from the step in femur to the lower limit of the tuberosities of the ia This distance is marked on the crest of the ia with the saw After separation of the muscles m the lateral surface the tibia is sectioned longi linally the anterior half of the bone being thereby moved as far as the saw mark The graft is then ed by a transverse cut reversed engaged in the p in the femur and wired in place The lower end the graft is wired or nailed to the tibia The sterior surface of the patella is denuded and also corresponding area on the graft to which the tella is nailed

The quadriceps are carefully brought together out the graft with a few heavy deeply placed tgut sutures

Well padded the limb is placed on a posterior ister splint extending from the toes to the base the thigh

When the upper end of the tibia must be resected e aponeurosis of the lateral group of muscles is cised along the tibial crest from the head of the ula to a point well below the tumor The muscles e retracted laterally and the interosseous ligament incised together with the anterior tibiofibular gament close to the tibia The tendons inserting i the medial surface of the tibia are detached and ie tibia is luxated forward to permit denudation of ie posterior surface of the tumor and section of the sterior tibiofibular ligament The shaft of the bia is sectioned below the tumor with a Gigli saw step is cut in the shaft and the graft is removed om the femur in a manner similar to that of the receding operation The condyles of the femur e freed of cartilage by means of a thin saw that llows the curve of the joint surface

After the operation the alignment of the bones is rified by roentgenograms Immobilization in laster must be maintained for five or six months t the end of this period a moulded leather or cellu id brace is fitted and the patient is allowed up with rutches Eventually he uses a cane A cure is not be expected until three or four years after the peration

This method of treatment is suited to cases of very rge giant cell sarcoma Small sarcomata can be ured by roentgenotherapy and those of medium size y curettage and packing with bone or cartilage grafts he large tumors require a parosteal resection he author s operation makes it possible to con erve the limb

Five cases operated on in the manner described re reported in detail In all the results as to func ion and cure were excellent Two patients have een followed for four years and one patient for five years The roentgenograms give the impression of an ordinary orthopedic resection of the knee In two cases a firm pseudarthrosis developed at the epiphyseal end of the graft but resection was followed by permanent bony union

ALBERT T DE GROAT M D

FRACTURES AND DISLOCATIONS

Wakeley C P G Fractures of the Pelvis An Analysis of 100 Cases *Brit J Surg* 19 0 xvii 22

The 100 fractures reviewed included 44 of the entire pelvic girdle 18 of the ilium 4 of the pubis 5 of the ischium 4 of the sacrum 3 of the coccyx and 2 of the acetabulum

The thickest and strongest part of the ilium is a bar of bone extending from the acetabulum upward Most fracture lines stop short of this bar

In general fractures of the whole pelvic girdle are of types (1) those of the pubic rami on one side and of the ilium near the sacrum on the other and (2) those confined to one side traversing the pubic rami ischium and anterior sacral foramina

Most patients with fracture of the pelvis are in shock They complain of pain in the pubic region on coughing and a sensation of falling to pieces The abdomen seems to be continuous with the thighs and the fold due to Poupart s ligament is obliterated Because of the danger of injury to the bladder or other viscera it is not wise to manipulate or try to obtain crepitus The patient should be placed on a fracture bed with a divided mattress A catheter should be passed and if urethral laceration is found a perineal incision should be made to prevent urinary infiltration After about ten days the author applies a plaster of Paris double spica cast This is kept on for six weeks At the end of nine weeks the patient is usually up on crutches and at the end of twelve weeks he discards the crutches

Of the 44 cases of complete girdle fracture reviewed visceral complications occurred in 6 Five of the cases with visceral complications were those of men with urethral or bladder laceration

The 18 fractures of the ilium were all caused by direct trauma There were no visceral complications The treatment was the same as for fractures of the entire pelvic girdle

Of the 24 fractures of the os pubis bladder or urethral complications were present in 5

The fractures of the ischium were treated by rest in bed for six weeks followed by massage There was no resulting disability

One of the 2 fractures of the acetabulum was of the posterior lip as a complication of posterior dislocation of the hip The other was a stellate fracture due to force transmitted through the neck and head of the femur Both were treated by preliminary weight extension for two weeks followed by the application of a plaster of Paris cast for six weeks Recovery without disability resulted in about three months

The fractures of the sacrum were all due to severe direct violence There were no complications except

neuralgia of the fourth sacral nerve in 1 case The treatment was the same as for fractures of the entire pelvic girdle

Two of the 3 coccyx fractures required subsequent excision of the fragment which was displaced forward WILLIAM A CLARK M D

Conwell H E Acute Fractures of the Shaft of the Femur in Children J Bone & Joint Surg 1929 xi 593

The author describes in detail an overhead wooden frame for the treatment of fractures of the femur by extension and suspension and reviews the opinions of a number of authorities regarding the treatment of fractures of the femur in children

The main forms of treatment of fractures of the femur in children are (1) the use of the plaster cast (2) the application of a plaster cast and extension obtained by means of adhesive calipers or the Steinmann pin and (3) suspension and extension

The third method has several subdivisions viz Buck s extension skeletal traction (by means of calipers and Steinmann pins) in the horizontal or perpendicular position (this method is rarely used and should be employed only when amputation is being considered or no other method is applicable in the use of skeletal traction in the cases of children interference with epiphyseal growth should always be kept in mind) suspension and extension of one or both thighs in a perpendicular elevation with adhesive traction to the skin extension of one or both thighs in a horizontal or perpendicular position with the aid of the Thomas or Hodgen splint and the use of the Bradford frame

Excellent results have been obtained by all of these methods but the suspension and extension method is the most popular

Treatment by open reduction should be the last resort and usually is unnecessary in the treatment of fractures of the femur in children

Treatment with the plaster cast gives better results in the cases of very young children than in those of older children The use of the plaster cast and extension gives better results in the older child Up to the age of ten or eleven years suspension and extension give better results than the use of the plaster cast alone or the use of the plaster cast combined with extension

A careful physical and roentgenological examination and careful consideration of the history are essential in every case Immediate reduction with the aid of the fluoroscope should be done Every case of fracture of the femur should be considered an emergency case and given immediate treatment

Unnecessary manipulation of the fractured limb is to be avoided A general anæsthetic preferably ether should be given at the time of reduction unless it is contra indicated by the general condition in which case a local anæsthetic should be used

Attention should be paid to conservation of the muscle and of the motion of the adjoining joints in order that convalescence may be hastened and grave deformities and permanent disabilities may be prevented For this purpose frequent applications of physiotherapy are recommended Frequent roentgenograms should be made

Good alignment is most important Next in importance is bone approximation

It is definitely concluded that compensatory lengthening takes place and that correction of poor alignment also occurs but chiefly in patients under eight years of age

The suspension and extension method is by far the most comfortable and gives the best results It facilitates frequent daily examinations and frequent checks with the X ray the dressing of compound wounds the application of radiant light and hot baths and active and passive motion all of which hasten convalescence and improve the functional result

After his discharge from the hospital the patient should be examined frequently in the out patient clinic and should be kept under observation until he is entirely well

Even though it is granted that compensatory lengthening takes place and serious misalignments are corrected in fractures of the femur in children the surgeon is never justified in neglecting any one of the procedures which should be carried out immediately after the occurrence of the fracture

In the treatment of children the mental factor is to be considered at all times

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

McPheeters H O and Rice C O Varicose Veins —The Circulation and Direction of the Venous Flow Experimental Proof *Surg Gynec & Obst* 1929 xlix 29

In the early stages of varicose veins of the legs the valves in the saphenous vein may be competent There is no reverse flow of blood—merely a stagnation of blood demonstrating the Trendelenburg nil sign

In moderately advanced cases the valves become deficient the blood flowing down in the superficial saphenous and into the deep veins through the communicating veins the valves of which are still normal The Trendelenburg sign is positive

In more advanced cases the valves in the communicating veins are also destroyed There is a reverse flow of blood from both the superficial and deep system causing a stagnation of blood in the dependent extremity with a saturation of the tissues which lowers their resistance and makes them susceptible to infection and later ulcer formation

To prove that in all varicose veins of the lower extremities the circulation is either stagnant or reversed the authors injected 1 c cm of lipiodol into the upper limit of an advanced case of varicosed saphenous vein and observed the progress of the lipiodol with the fluoroscope

When the patient was in the reclining position the solution remained stationary about the point of the needle When a slight increase in the intra abdominal pressure was caused by raising the head the solution was seen to break up into several particles and quickly move downward Raising the body caused the solution to pass down the entire length of the saphenous veins Movement of the foot caused the globules of lipiodol to dash into the communicating veins Only after forceful exercise were the globules of lipiodol seen to move gradually centralward

The authors conclude that the chemically induced thrombus is forced distally toward the smaller veins where it is arrested this accounting for the rarity of emboli

EARLE I GREENE M D

Homans J The Operative Treatment of Varicose Veins Varicose Ulcers and Phlebitis *New England J Med* 1929 cc 965

Homans describes in some detail the anatomical and physiological causes of varicose veins of the legs He concludes that whereas varicose vein cause symptoms and serve no function they should be removed He insists upon a positive diagnosis of varix because operations performed for incomplete varicosities are most satisfactory

He states that if back pressure in the superficial veins is to be relieved completely and permanently the great saphenous vein must be excised root and branch from its entrance into the femoral vein at the groin downward If any part of the operation is indispensable it is the removal of the saphenous vein in the thigh Many surgeons are content to remove only the varicose vessels of the calf a perfectly useless procedure since the varicose vessels of the thigh which are still left connected with the valveless abdominal veins will soon distend a new set of veins in the lower leg and within from six months to a year the only evident change which surgery has brought about will be the presence of a scar

In the complete operation for varix the leg is prepared by shaving from the pubis to the toes and cleansing the skin by one of the standard methods The initial incision from 3 to 4 in long is made in the groin just below and parallel with the inguinal ligament In this way the great saphenous vein is readily picked up followed to its entrance into the femoral vein and divided perhaps ½ in from its origin A liberal stump is left distal to the tie as Homans has seen a patient push off the ligature in vomiting However the success of the operation depends chiefly on the thoroughness with which all branches which might in the future act as connecting links between the great abdominal veins and the odd remains of veins in the thigh and calf are excised

The manner in which the great saphenous channel is removed from groin to knee is a matter of choice The surgeon may select an open dissection but as a rule he will strip the vein with the acorn or ring stripper down to a point just below the knee From this point on it is usually well to make a clean cut downward upon the inner side of the calf toward the ankle This is the least essential part of the operation so far as relief of the symptoms is concerned but is necessary for a good cosmetic result It is a good rule also to carry the initial incision down to the deep fascia no matter how many times a tortuous vein is cut Bleeding can be controlled by pressure and with hæmostats Narrow strips may then be turned up and the veins removed from the deep side of the flaps

The simplest type of varicose ulcer is the one which rides upon a varicose vein or is so clearly tributary to a mass of varices that removal of the veins proximal to it will obviously relieve local stasis and back pressure If an ulcer of this type is neither very aged nor calloused the veins should be removed down to the region of the ulcer the lesion itself being *ignored* When the ulcer is so large or so calloused or both so large and so calloused that even if covered with epithelium it will probably not remain healed excision is advisable The excision should be radical and include the deep fascia that is the muscular aponeurosis beneath the ulcer Excision of the deep fascia with the ulcer insures a sound vascular base for the

neuralgia of the fourth sacral nerve in 1 case The treatment was the same as for fractures of the entire pelvic girdle

Two of the 3 coccyx fractures required subsequent excision of the fragment which was displaced forward WILLIAM A CLARK M D

Conwell H E Acute Fractures of the Shaft of the Femur in Children *J Bone & Joint Surg* 1929 xi 593

The author describes in detail an overhead wooden frame for the treatment of fractures of the femur by extension and suspension and reviews the opinions of a number of authorities regarding the treatment of fractures of the femur in children

The main forms of treatment of fractures of the femur in children are (1) the use of the plaster cast (2) the application of a plaster cast and extension obtained by means of adhesive calipers or the Steinmann pin and (3) suspension and extension

The third method has several subdivisions viz Buck s extension skeletal traction (by means of calipers and Steinmann pins) in the horizontal or perpendicular position (this method is rarely used and should be employed only when amputation is being considered or no other method is applicable in the use of skeletal traction in the cases of children interference with epiphyseal growth should always be kept in mind) suspension and extension of one or both thighs in a perpendicular elevation with adhesive traction to the skin extension of one or both thighs in a horizontal or perpendicular position with the aid of the Thomas or Hodgen splint and the use of the Bradford frame

Excellent results have been obtained by all of these methods but the suspension and extension method is the most popular

Treatment by open reduction should be the last resort and usually is unnecessary in the treatment of fractures of the femur in children

Treatment with the plaster cast gives better results in the cases of very young children than in those of older children The use of the plaster cast and extension gives better results in the older child Up to the age of ten or eleven years suspension and extension give better results than the use of the plaster cast alone or the use of the plaster cast combined with extension

A careful physical and roentgenological examination and careful consideration of the history are essential in every case Immediate reduction with the aid of the fluoroscope should be done Every case of fracture of the femur should be considered an emergency case and given immediate treatment

Unnecessary manipulation of the fractured limb is to be avoided A general anæsthetic preferably ether should be given at the time of reduction unless it is contra indicated by the general condition in which case a local anæsthetic should be used.

Attention should be paid to conservation of the muscle and of the motion of the adjoining joints in order that convalescence may be hastened and grave deformities and permanent disabilities may be prevented For this purpose frequent applications of physiotherapy are recommended Frequent roentgenograms should be made

Good alignment is most important Next in importance is bone approximation

It is definitely concluded that compensatory lengthening takes place and that correction of poor alignment also occurs but chiefly in patients under eight years of age

The suspension and extension method is by far the most comfortable and gives the best results It facilitates frequent daily examinations and frequent checks with the X ray the dressing of compound wounds the application of radiant light and hot baths and active and passive motion all of which hasten convalescence and improve the functional results

After his discharge from the hospital the patient should be examined frequently in the out patient clinic and should be kept under observation until he is entirely well

Even though it is granted that compensatory lengthening takes place and serious misalignments are corrected in fractures of the femur in children the surgeon is never justified in neglecting any one of the procedures which should be carried out immediately after the occurrence of the fracture

In the treatment of children the mental factor is to be considered at all times

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Fischer H Autotransplantation and Homotransplantation of Prepared Transplants (Auto und Homoiotransplantation mit vorbehandelten Transplanten) *53 Tag deutsch G s f Chir* Berlin 1929

Two factors decisive in the success of a transplantation operation are the regenerative power of the tissue transplanted and its individual differential Control of the latter is essential for a successful homotransplantation It should be successfully attained by preliminary treatment of the transplant

In his researches Fischer investigated the influence on the transplant of changes of temperature in its preparatory treatment and of its preservation in hypertonic and hypotonic solutions A special effort was made to determine whether a change occurred in the individual differential without a change in the power of regeneration The results of the first experiment (skin transplantation in rabbits) showed that an increase of temperature up to 43 degrees and a decrease to from 1 to 2 degrees were well borne by the transplant When the transplant was heated to 45 degrees or cooled to 3 degrees it healed in only temporarily The homotransplant soon underwent necrosis Careful histological study showed that there had occurred a change in the tissues in the sense of an alienation whereas the regenerative power remained high (proliferation of the epithelium) The transplant was destroyed by the defensive mechanism of the host organism

This process was demonstrated even more distinctly in the second series of experiments in which use was made of bits of epidermis which had been kept in an anisotonic solution (from one half to one hour in a 3 to 5 per cent salt solution or distilled water) The transplant was destroyed in from three to four weeks

These studies therefore show that also in the cases of the higher animals portions of tissue may be placed for a short time under conditions which deviate from the requirements of isothermy and isotony without destroying the regenerative power of the cells On the other hand the individual differential undergoes a change so that an autotransplant can no longer be endured by the body as a homologous substance The homotransplant rapidly undergoes necrosis The experiments show also a change in the individual differential factor is possible without a deleterious influence on the strength of the tissue

Following this report MEYER (Goettingen) discussed temporary transplantation in plastics with large pedicled flaps The principle of the method consists in grafting the reverse side of the pedicle of all long pedicled flaps with Thiersch grafts The technique is that of the Esser epithelial lining method The advantages of the procedure are better nutrition the avoidance of infection and shrinkage and the wide applicability of such a pedicled flap When the transplantation is to be done the flap may be pulled from its bed like a sausage skin

STABEL (Berlin) stated that under some circumstances homotransplants may be of value even though they cannot be healed on permanently In the case of a small child with a severe burn he was able to bring the patient through the most dangerous period and save its life by the use of skin transplants from the patient s brother FISCHER (Z)

Davis J S The Small Deep Graft *Ann Surg* 1929 lxxix 902

The small deep graft differs from the Reverdin graft in that it is thicker and at its center it is a full thickness graft whereas at its margins it is very thin Such grafts are ordinarily used on granulating surfaces preferably those that will later be covered by the clothing The granulations should be healthy rose pink firm and not exuberant

Twenty four hours before the grafting a careful toilet of the area is made and the granulations are covered with a pad saturated with normal salt solution The pad is allowed to dry Just before the operation it is soaked again and removed The surface is then washed with ether and salt solution and covered with a dry pad which is not removed until just before the application of the grafts

The grafts are usually cut under local or block anæsthesia A bit of the epidermis is picked up on an intestinal needle so that a little cone is formed The base of the cone is then cut through with the knife edge tilted slightly downward The grafts are round or oval and from 0 4 to 0 5 cm in diameter A narrow rim of undisturbed epithelium is left between the pits made by the cutting of the grafts

The grafts are transferred directly to the surface to be grafted or are placed on a dry towel from which they are picked up by the assistant They are placed about 0 5 cm apart in rows They are covered with perforated rubber protective then flattened out by firm pressure with a gauze pad and then dried with warm air Pressure is maintained by dressing with a sea sponge and adhesive

The grafted area is first dressed at the end of twenty four hours and thereafter daily Grafts that are going to live are a dusky pink at first

Small deep grafts stimulate the epithelial growth markedly and are uniformly satisfactory if the wound has been properly prepared and the grafts have been properly cut and applied They cause stable healing with pliable and movable scars

FRANK B BERRY M D

subsequent skin graft and almost guarantees a clean surface free from infection The skin grafting may be performed at once or may be delayed

For thrombosed varicose veins the author advocates very radical treatment. He states that when the inflammatory reaction has been mild from the start or has markedly decreased after the patient has remained in bed for a week excision of the varicose thrombosed vessels is indicated but certain precautions must be observed The dissection should be begun at the groin as for the ordinary operation for varix but if the vein is thrombosed up to its entrance into the femoral it should be ligated and divided very gently lest a clot be detached Stripping can not be performed and it is usually necessary to make a very open dissection removing adherent skin with the thrombosed veins themselves When the vein is adherent to the skin upon the inner side of the knee Homans makes a series of short transverse cuts at that point and pokes out the segments of vein between incisions as best he can leaving small rubber tissue drains In general however the wounds heal well and require no drainage JOHN J MALONEY M D

Van Gorder G W High Vein Ligation in Thrombo Angiitis Obliterans *Ann Surg* 1929 xc 88

The author reports nine cases of thrombo angiitis obliterans treated by high ligation of the main vein of the extremity

Of five cases in which the femoral vein was ligated the pain and gangrene ceased in three the gangrene was arrested but slight pain persisted in one and no relief was obtained in one

Of five cases (one with ligation of the femoral vein on the right and ligation of the external iliac vein on the left) in which the external iliac vein was ligated the pain and gangrene ceased in three only the pain was relieved in one and no immediate improvement resulted in one In the last case the tip of a gangrenous toe was subsequently removed with relief of pain and one year later the patient was still free from pain

In two cases ligation of the vein and section of the obliterated femoral artery failed to relieve the pain

In one case ligation of the basilic and brachial vein was followed by relief of the pain and improvement in the local circulation

In contrast to Miller and Kaufmann the author believes that following high vein ligation the collateral circulation is improved He considers the result to be purely mechanical—a balancing of the circulation in the treated extremity

He concludes that high vein ligation in thrombo angiitis obliterans is of definite value in affording relief from pain combating gangrene and postponing if not obviating high amputation

JOHN H WOOLSEY M D

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Crandall L A and Walsh E L The Effect of Iodized Oil on Serous Membranes *Radiology* 1929 xii 499

Having noted that iodized oil injected into the pericardial sac of animals produced a sterile pericarditis with effusion the authors conducted a series of experiments to determine the effect of such oils on serous membranes Injections of the oils were made into the pericardial sacs the pleural and peritoneal cavities and the joints of dogs by methods which are described in detail and similar unhalogenated oils were used in like manner as controls Each animal was subjected to a careful necropsy In most cases cultures and direct smears of the injected region were made and in several instances frozen sections were made and stained with Sudan III in addition to the usual hæmatoxylin and eosin preparations

The following conclusions are drawn

1 Two iodized oils—lipiodol (Lafay) and lipoiodin (Ciba)—are irritating to certain membranes as follows (a) Intrapericardial injection produces pericarditis with effusion followed by death in about two weeks (b) Intrapleural injection produces a pleuritis of variable grade some animals die (c) Injection into joints produces some inflammation of the capsule (d) Intraperitoneal injection appears harmless

2 Poppy seed oil and ethyl brassidate are equally as irritating to the pericardium as their iodine compounds Sesame oil is somewhat less irritating Olive oil appears to be practically innocuous

ADOLPH HARTUNG M D

Frazier C H The Use of Iodized Rape Seed Oil (Campiodol) for Roentgenographic Exploration *Ann Surg* 1929 lxxxix 801

Experimental studies made with various iodized oils led the author to the conclusion that iodized rape-seed oil campiodol is the most suitable for general purposes It is well tolerated in large amounts regardless of the site of its administration It has been employed for cerebrospinal pulmonary urological vascular and sinus visualization For routin work a mixture of four parts of iodized rape seed oil with one part of ethyl olive oil was used For cerebrospinal visualization ethyl olive oil is a much less toxic diluent than olive oil

In neurological examinations to determine spinal block campiodol has proved especially valuable because of its lack of globulation and the fact that it flows freely It shows no tendency to adhere to the spinal roots a tendency which in the cases of some iodized oils gives rise to so called false block In the demonstration of the cerebral ventricular system excellent ventricular shadows were obtained by injecting an emulsion of campiodol with acacia However this emulsion has not proved ideal and further investigations are under way to secure one that is more satisfactory

In animals campiodol has been used for visualization of the cranial and peripheral vessels without untoward effects Roentgenograms must be made at the time of the injection since within one minute nearly all traces of the oil disappear The manner in which the oil is disposed of after its injection is not definitely known but oil embolism has not occurred

Injections of campiodol into the bronchi have proved very satisfactory in bronchiectasis To determine the patency of the cystic and common ducts campiodol has been introduced both into the gall bladder and into the common duct when an external biliary fistula has been present Old sinus tracts may be traced to their origin with its aid It may be employed also to determine the patency of the fallopian tubes to outline the pelvis of the kidney and to demonstrate non-opaque pelvic calculi Its use in the paranasal sinuses is of great diagnostic value

In the author's opinion campiodol is as inert a substance as it is possible to obtain for shadow casting purposes Its high iodine content the stability of the iodine linkage to the oil and the low content of irritative acids in the oil make it an ideal product

ADOLPH HARTUNG M D

RADIUM

Duffy J J Experiences to Date with the Four Gram Radium Element Pack *Am J Roentgenol* 1929 xxii 52

Duffy states that the evolution of external irradiation with radium has been gradual from the early contact method to the more recent distant irradiation The optimum filter for efficiency and economy of irradiation in routine treatment has been found to be 2 mm of brass External irradiation is done exclusively with 4 gm of radium sulphate in a special pack designed by Failla The provisions made for protection of the operator have been so successful that according to Quimby the operator receives only 0 00004 per cent of an erythema dose per day The pack is applied at a distance of 6 10 or 15 cm from the skin

Though the amount of irradiation delivered to the skin is of importance the amount actually absorbed by the tumor is of greater importance In order to determine the irradiation absorbed in a given layer it is necessary to make individual cross section anatomical pictures for each patient By the aid of a special projection apparatus the required cross sec

Howes E L and Harvey S C The Strength of the Healing Wound in Relation to the Holding Strength of the Catgut Suture *N England J Med* 1929 cc 1285

The authors state that the holding power of a stitch is in direct proportion to the degree of condensation of connective tissue in the structure in which the stitch is placed Only in fascia and similarly condensed layers of connective tissue is the holding power of the stitch greater than the strength of the finest catgut

The holding power of a stitch decreases markedly during the first two or three days and more rapidly than the tensile strength of chromicized catgut during the same period Therefore the initial preponderance of strength of the suture over its holding power is maintained

The greater the amount of suture material embedded within a given area the greater the degree of reaction of the tissue Therefore the quantity of gut employed should be the least that is necessary to sustain the approximation of the tissues until requisite strength obtains in the wound

From a comparison of the velocity curve of the healing wound and the curve of the disappearance of catgut embedded in tissue it is seen that No 0 twenty day chromic catgut meets all requirements of the stitch in fascial and connective tissue layers while even finer gut than this is sufficient for structures in which the holding power of the stitch is less

JOHN H. GARLOCK M D

Fruend Experiences in the Prophylaxis of Postoperative Thrombosis and Embolism (Erfahrungen mit die Prophylaxe postoperativer Thrombose und Embolie) *53 Tag d deutsch Ges f Chir* Berlin 1929

The chief factor in the development of thrombosis is the injury to the circulation This is indicated by the success of physiotherapy and the frequency of thrombosis in cardiac disease also by the frequency of embolism in laparotomies Every laparotomy stops peristalsis and thereby checks one of the stimulators of the circulation

In Fruend's opinion the importance of infection in the development of thrombosis has been overestimated This is indicated by the rarity of thrombosis in long continued suppurative conditions and its occurrence following completely aseptic operations

The degree to which the finer components of the blood favor thrombosis has not yet been determined Fruend is of the opinion that endocrine glands are involved particularly the thyroid

According to de Quervain the incidence of embolism is 1 99 per cent following prostatectomy 1 06 per cent following operations for myoma 0 85 per cent following operations on the biliary tract 0 85 per cent following operations on the extremities 0 15 per cent following herniotomies and only 0 03 per cent following operations for goiter The objection that goiter operations are often undertaken in cases of hypothyroidism is weakened by the fact that so much colloid is absorbed during the operation that even in hypothyroidism a hyperthyroidism occurs Fruend cited his previous communications on this subject

In agreement with the Mayo Clinic, Fruend has markedly decreased the incidence of embolism by the routine prophylactic administration of thyroid preparations He had only 1 instance of fatal embolism in 4 000 operations and in that case the thyroid preparation was not administered until the fourth day Of over 6 900 operations fatal embolism occurred in only 3 (0 04 per cent) Even in prostatectomies the incidence of embolism has been reduced to 0 2 per cent Fruend ascribes the poor results obtained by others to the extremely unreliable character of the thyroid preparations manufactured in Germany He recommends the administration of a tablet of thyroidin three times a day In some cases there may be unpleasant symptoms such as fainting In 2 of Fruend's cases there was severe diabetes Fruend warns against the simultaneous administration of thyroid preparations and insulin.

In the discussion NYSTROEM (Upsala) reported further experiences with the Trendelenburg operation for embolism During the past year he has operated upon 5 cases One was a case of incorrect diagnosis following prostatectomy Two patients died on the operating table In the fourth case the heart action was re established by means of adrenalin but the embolism recurred later One patient is still alive In 2 cases the pleura was injured On the basis of his experiences Nystroem recommends an incision differing from the Trendelenburg incision Nystroem incises along the sternum and then resects the second third and fourth ribs The ribs must be very carefully loosed from the pleura.

HAMKESPAHR (Magdeburg) described a mechanical apparatus for stimulating the peripheral circulation by means of rhythmic filling and emptying of an air cushion snugly fitted to the affected limb When the cushion is filled with air the muscles are pressed together and the veins are emptied and when the cushion is emptied the blood again flows from the arteries into the veins The rhythmic filling and emptying of the cushion are controlled by an electrical pump and an electrically operated valve

BETTMANN (Leipzig) described a manual apparatus for stimulation of the peripheral circulation viz a modified Perthe inflatable cuff which is attached to the bed and controlled by a simple lever mechanism operated by raising and lowering the limb The use of this apparatus is recommended for all congestive conditions as a prophylactic measure against the development of thrombosis in patients confined to bed

STETTINER (Z)

Berven E Heyman J and Thoraeus R The Technique in the Treatment of Tumors at Radiumhemmet Stockholm *Acta radiol* 1929 x 1

This article is a presentation of the principles and technique of the treatment of tumors at Radium hemmet and an account of the strength dosage and filtration of the preparations used

The methods employed include irradiation with radium chiefly in the form of filtered gamma rays or with the roentgen rays or a combination of both in the form of pre-operative and postoperative treat ment In the surgical treatment electrodiathermy is frequently employed

The authors give a brief historical review of the development of the technique for each group of diseases and a detailed description of each method or combination of methods

The technique used at the present time is not to be regarded as final as it is still being developed especially as the result of the introduction of distant radium treatment However it is based on expe rience acquired over a period of twenty years under the same management and a careful statistical study of clinical material and end results

MISCELLANEOUS

Levy A G The Pathological Action of Light *J Path & Bacteriol* 1929 xxxii 387

Levy reports an experiment with visible light upon the sensitized tissues and of ultraviolet light upon the non sensitized tissues of the ear of a white mouse

In 1911 Hausmann published his conclusions regarding the effects of visible light freed from ultra violet rays upon white mice that had been sensitized by a subcutaneous injection of hæmatoporphyrin Levy repeated Hausmann s experiment extending his observations to the tail the legs and the skin of the animal Like Hausmann he found that necrosis of the irradiated parts is induced and followed by death

Levy s special contribution on the effects of light concerns the action of ultraviolet light upon non sensitized tissue The following conclusions are drawn

1 The essential action of white light upon sen sitized tissue and of ultraviolet light upon non sen sitized tissue appears to be identical

2 The result of prolonged exposure of the mouse s ear to light is an immediate complete stasis with subsequent necrosis

3 Less prolonged irradiation results in delayed stasis with subsequent necrosis

4 In no case is stasis conditioned by the forma tion of clots

5 The necrotic changes are a consequence of the cessation of circulation

6 Hypertrophy and infiltration of the epithe lium are striking results of irradiation which is insufficient to produce general stasis The hyper trophy is definitely shown to result from a brief period of irradiation GERTRUDE BEARD

tion is traced at the side of the patient With the aid of a glass topped table electrically lighted from below the dosage for various distances will accurately show the irradiation beam and the amount of absorption at different levels However in certain regions of the body—the breast axilla and supraclavicular region—this method of determining dosage is not suitable As these regions are irradiated at an angle a special contour drawing is necessary for the proper orientation of the irradiation beam The contour is obtained with a flexible rod and the rod retaining the contour is transferred to the line of charts When a sagittal section of the axilla is drawn either one beam of irradiation can be used and the dosage calculated or two irradiation beams anterior and posterior can be used and the total depth absorption determined

The article includes charts showing the absorption percentages when the applicator is used at a distance of 6 10 and 15 cm These charts are placed beneath the drawing obtained from the patient and the absorption is charted by means of transmitted light Five points in the tumor are considered—the center the nearest and farthest points and the two lateral points

The conception that irradiation has a selective action on tumor cells is not tenable for all types of neoplasms It is true in the embryonal types and the very cellular tumors with adult types of cells but there are gradations of susceptibility Even in radiosensitive tumors there is only a narrow margin of safety between the amount of irradiation sufficient to cause complete regression and the amount that will injure surrounding tissues In the more adult types of growths the problem is still more difficult Often it is necessary to concentrate two or more beams of irradiation on a tumor mass in order not to overdose the normal tissues The treatment must be adapted to the requirements of the particular case The practical procedure is as follows

When a patient is referred for external treatment with the 4 gm pack a tracing is made of the body and the tumor drawn according to scale By means of the transmitted light equipment the distance of the irradiation and the number of ports required are determined before he returns for treatment The skin dosages of the 4 gm pack are 16 000 mgm hrs at a distance of 6 cm 8 000 mgm hrs at a distance of 10 cm and 60 000 mgm hrs at a distance of 15 cm Each treatment is limited to two hours Sixteen thousand milligram hours given in consecutive hours or in equal parts on consecutive days yield practically the same effect but when 60 000 mgm hrs at a distance of 15 cm are given over a period of fifteen days the changes produced in the tumor mass are less distinct

The difference between a full amount given in a short period and in a long period of time are well shown by rectal cancer as this lesion can be seen and felt When the full amount of irradiation is given in a short period of time there is intense hyperæmia of the mucous membrane a membranous covering appears over the ulcerated portion of the resistance type of lesion and definite regression occurs in the less resistant type of lesion When the same dose is given over a period of from three to five weeks little effect is noted on palpation and there is no visible change In oral cancer the findings are similar

Unless a tumor is very susceptible complete regression cannot be obtained from one beam of irradiation This is evident from the results obtained in a tumor in a small breast given one beam of irradiation as compared with those obtained in a tumor in a large breast given three beams of irradiation In the former the greatest absorption was 85 per cent and in the latter 107 per cent Pelvic organs are irradiated at a distance of 15 cm with two beams of irradiation anterior and posterior A full erythema dose 1 given to each port with absorption of 64 per cent of an erythema dose in the center Two lateral ports will add only 34 per cent and at the same time will increase the source of irradiation 100 per cent which would be extravagant use of radium

External irradiation offers more to patients with carcinoma of the rectum than to other groups This is true especially in the cases of males because on account of the narrower pelvis of the male lateral exposures can be given to increase the absorption to 112 per cent In oral carcinoma both sides of the neck are irradiated routinely

The lethal dose has not yet been determined for any definite type of tumor cell So-called lethal doses for sarcoma and carcinoma are far from correct Until these doses are known we are justified in administering all the irradiation that the patient as a whole can tolerate In general the shorter distances of 6 and 10 cm are employed chiefly as they are associated with less added injury to deeper normal structures Absorption is relatively greater in the superficial layers In this type of irradiation of tumors of the chest wall adverse changes caused by heavy irradiation in the lung tissue are avoided. On account of the effects of irradiation on the small intestine the same care should be taken in the treatment of abdominal regions It is not known definitely what dosage the small intestines will tolerate but over irradiation will result in the development of severe toxic symptoms and occasionally in peritonitis with a fatal outcome

Proper calculation by cross section drawings will greatly advance the progress of external irradiation No routine procedure can be adopted for all regions of the body Every effort must be made to determine the tumor dosage by correlating the absorption with the microscopic study and the clinical course of the disease

In conclusion Duffy states that at a depth of 11 cm there is 1 per cent greater absorption from a radium pack than from roentgen rays at 200 kv with a filter of 0 5 mm of copper and a target skin distance of 40 cm At lesser depths the roentgen rays permit a relatively greater absorption. Duffy has obtained a better clinical response from radium than from the roentgen rays A. James Larkey M D

cells The third variety of cells appearing in inflammatory processes the polyblasts are generally believed to be derived from the cells of the vessel walls An important rôle in their formation is ascribed to the endothelium

Maximow renews his energetic attack against the latter view which is particularly prevalent in Germany He believes that only a small number of the polyblasts are derived from the local elements of the resting wandering cells or histiocytes and that by far the greater number come from the blood After emigration the small lymphocyte very rapidly transforms itself into a new larger phagocytic cell capable of storing vital material i e into a polyblast Maximow went over von Moellendorf s recent experimental work and arrived at conclusions entirely different from those drawn by von Moellendorf According to von Moellendorf all of the fibroblasts hang together in the manner of syncytium under the influence of the inflammatory irritation the syncytium separates into individual cells and from these mobilized fibroblasts the polyblasts as well as the granular special leucocytes arise Maximow describes the cytological changes observed by him after the injection of 0 25 c cm of a sterile solution of trypan blue into the loose connective tissue of white rats His method differs in important particulars from von Moellendorf s procedure Instead of examining bits of skin Maximow prepared sections In the skin fragments there is only a layer of loose connective tissue between skin and fascia As these sites are poorly vascularized the importance of the vessels in the formation of the exudate cells cannot be correctly estimated from skin fragments The sections examined in Maximow s procedure are fixed with Zenker formol Formalin is unsuited to cytological research The sections are mounted in celloidin and stained by the hæmatoxylin eosin azure method or with iron hæmatoxylin The simultaneous use of supravital neutral red stain is important

The injection of trypan blue is followed immediately by a marked increase of cells in the tissue areas affected For the most part these are cells that have migrated out from the blood They undertake first the task of absorbing and digesting the dye After this has been accomplished they settle down in the tissue as resting polyblasts which later change into true fibroblasts

In reply to the objection that the lymphocytes are not phagocytes and that consequently the polyblasts cannot be derived from the blood cells Maximow points out that these phagocytic and storing qualities are not assumed until after the transformation of the lymphocytes into polyblasts which takes place after the emigration of the cells The tissues are flooded with small round cells at a time when there are no signs of an increase in the local fixed cells

The same holds true for the vessel endothelium Mitoses are rarely seen even in the later stages of inflammation

The capacity for transformation possessed by lymphocytes wandering out from the blood was indicated also by the work of Maximow and Blood in which the fate of the lymphocytes was followed in explantation experiments with tissue cultures In this research proof was obtained that polyblasts and fibroblasts can be cultured from lymphocytes as well as from monocytes Even fibrous connective substance is formed so that the final result of the cultures is a tissue differing in no respect from scar tissue Accordingly it is impossible to doubt that lymphocytes and monocytes are cells with great developmental powers CORKALIS (Z)

Hundsdoerfer Trauma and Diabetes Carbohydrate Metabolism in Fractures (Trauma und Diabetes Zuckerstoffwechsel bei Frakturen) *53 Tag d deutsch Ges f Chir* Berlin 1929

According to Umber and Rosenberg a latent diabetes can be rendered manifest and a manifest diabetes can be made worse by severe bodily or psychic trauma but no clinical or experimental proof has been found that diabetes can be caused by trauma However glycosuria spontaneous or alimentary is relatively common following trauma or concussion of the brain and other injuries Konjetzny and Weiland have observed transitory glycosuria in 40 per cent of cases of fracture

Glycosuria is a renal process that is bound up with a threshold value of blood sugar for which however no exact figure can be given A single determination of the blood sugar under conditions of fasting is of no value Conclusions can be drawn only from continuous determinations of the blood sugar values when the exact amount of the ingested sugar is known

The author presents a number of blood sugar curves in cases of fracture In all of the cases there was an alimentary glycosuria The curves indicate that there were disturbances in the carbohydrate metabolism since later investigations showed that as the healing of the fracture progressed the curves returned to normal

Various theories have been advanced regarding the origin of these disturbances of metabolism The author concludes from his blood sugar curves that there is a toxic injury of the pancreas or liver He draws this conclusion because of the later appearance of the peak of the glycæmia and the slow subsidence of the reaction which can be explained only by injury to the pancreas On the other hand he believes it possible also that as the result of a toxic injury to the liver the glycosecretory stimulation of the liver caused by the administered dextrose becomes stronger and the synthesis and fixation of glycogen are disturbed Another possibility is a disturbance of the acid base equilibrium such as occurs after operations with the development of glycæmia as the result of acidosis which appears also after fractures Further research to clear up these questions is being carried on At the present time it can be said only that disturbances of carbohydrate metabolism are present in cases of fracture even when they cannot be recognized by the usual methods of examination

STETTINER (Z)

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIOLOGICAL CONDITIONS

Walshe F M R The Physiological Analysis of Some Clinically Observed Disorders of Movement The Tremor Rigidity Symptom Complex *Lancet* 1929 ccxvi 10 4

The tremor rigidity syndrome is seen in characteristic form in Parkinson's disease and as a sequel of epidemic encephalitis In these conditions rigidity may be observed without tremor but tremor is never found without some rigidity in the muscles producing it

In paralysis agitans there occurs a certain slight but definite falling off in the force of voluntary movements a slowing of the rate and a limitation of the range of voluntary movements a damping down of the normal movements of facial expression and of the limb gestures that may accompany them and also of those accessory movements of the head trunk and limbs which accompany free voluntary movements of the body as a whole such as the swing of the arms and of the trunk in walking

There is no loss of any movement but there is a damping down of the range and speed of all movements with apparent extinction of those which are normally of feeble intensity Hence it is that in walking the accessory movements tend to disappear leaving in action only those primary components of the total movement complex which are essential to the achievement of the subject's purpose

These primary components are abnormally slow in starting and in performance In many cases they tend to become decelerated progressively and may be brought prematurely to a stop in mid-course As the subject can maintain some active posture of a limb against resistance the disability is not a measure of a loss of voluntary power in the muscles concerned

In the performance of such alternating movements as flexion extension of the fingers there occur a progressive deceleration and decrease of range in each successive component movement until nothing but a tremulous oscillation around a fixed point remains The patient cannot carry on any rhythmic movement of greater amplitude than that of the ordinary parkinsonian tremor

While active postures can be maintained with approximately normal force those muscular activities which necessitate free active changes in the length of the muscles that is lengthening and shortening of the constituent *muscle fibers* are seriously impaired In voluntary movement there is some impediment to changes *in length of* the muscle fibers but relatively little impairment of the power of the muscle fibers to maintain tension at fixed lengths

The salient features of parkinsonian rigidity may be summarized as follows

1 It is diffuse in distribution and lacks the selective incidence of spasticity and decerebrate *rigidity*

2 It remains of unvarying intensity through the fullest possible range of shortening and lengthening

3 While it responds to sudden stretch by a tendon jerk sustained stretch does not produce clonus

4 It is apparently wholly uninfluenced by afferent impulses arising in the labyrinths or in proprioceptors in muscles elsewhere

5 It is not subject to inhibition by intercurrent exteroceptive or cutaneous reflexes but persists at a remarkably constant level unaffected by environmental stimuli of all kinds

6 It is not accompanied by the release of the spinal flexion or crossed extension reflexes and the plantar responses remain of normal type

7 It appears to be proprioceptive in origin since de afferenting the muscle by novocain injections abolishes rigidity

The mode of onset and the progress of paralysis agitans do not suggest that the underlying lesion is degeneration of peripheral nerve endings The abnormalities of voluntary movement seen in paralysis agitans may be regarded as a direct consequence of muscular rigidity and not as representing the loss of a function resulting from the destruction of some system of neurones

The tremor of paralysis agitans is not a new phenomenon representing a mode of innervation peculiar to the disease It is the emergence of normal cortical rhythm through a defect of lower level mechanisms. Cortical activity is essential to the *appearance of* tremor but has nothing to do with that of rigidity while an intact proprioceptive system is *essential to* the development of rigidity but not to that of tremor

SAMUEL KAHN M.D

Maximow A The Histogenesis of the Inflammatory Reaction and the Capacities for Development *in the* Non Granular Leucocytes of the Blood (Ueber die Histogenese der entzuendlichen Reaktion und ueber die Entwicklungsfaehigkeiten der ungranulierten Blutleukocyten) *Wien klin Wchnschr* 1928 u 1609

Maximow compares the theories of Marchand Herzog and von Moellendorf regarding the cellular processes occurring in inflammation *With* regard to the origin of the polymorphonuclear granular special leucocytes the fibroblasts and the fibrocytes which appear in inflammatorily infiltrated tissue there are no differences of opinion The first emigrate from the vessels and the fibroblasts represent local fixed

cells The third variety of cells appearing in inflammatory processes the polyblasts are generally believed to be derived from the cells of the vessel walls An important rôle in their formation is ascribed to the endothelium

Maximow renews his energetic attack against the latter view which is particularly prevalent in Germany He believes that only a small number of the polyblasts are derived from the local elements of the resting wandering cells or histiocytes and that by far the greater number come from the blood After emigration the small lymphocyte very rapidly transforms itself into a new larger phagocytic cell capable of storing vital material i e into a polyblast Maximow went over von Moellendorf s recent experimental work and arrived at conclusions entirely different from those drawn by von Moellendorf According to von Moellendorf all of the fibroblasts hang together in the manner of syncytium under the influence of the inflammatory irritation the syncytium separates into individual cells and from these mobilized fibroblasts the polyblasts as well as the granular special leucocytes arise Maximow describes the cytological changes observed by him after the injection of 0 25 c cm of a sterile solution of trypan blue into the loose connective tissue of white rats His method differs in important particulars from von Moellendorf s procedure Instead of examining bits of skin Maximow prepared sections In the skin fragments there is only a layer of loose connective tissue between skin and fascia As these sites are poorly vascularized the importance of the vessels in the formation of the exudate cells cannot be correctly estimated from skin fragments The sections examined in Maximow s procedure are fixed with Zenker formol Formalin is unsuited to cytological research The sections are mounted in celloidin and stained by the hæmatoxylin eosin azure method or with iron hæmatoxylin The simultaneous use of supravital neutral red stain is important

The injection of trypan blue is followed immediately by a marked increase of cells in the tissue areas affected For the most part these are cells that have migrated out from the blood They undertake first the task of absorbing and digesting the dye After this has been accomplished they settle down in the tissue as resting polyblasts which later change into true fibroblasts

In reply to the objection that the lymphocytes are not phagocytes and that consequently the polyblasts cannot be derived from the blood cells Maximow points out that these phagocytic and storing qualities are not assumed until after the transformation of the lymphocytes into polyblasts which takes place after the emigration of the cells The tissues are flooded with small round cells at a time when there are no signs of an increase in the local fixed cells

The same holds true for the vessel endothelium Mitoses are rarely seen even in the later stages of inflammation

The capacity for transformation possessed by lymphocytes wandering out from the blood was indicated also by the work of Maximow and Blood in which the fate of the lymphocytes was followed in explanation experiments with tissue cultures In this research proof was obtained that polyblasts and fibroblasts can be cultured from lymphocytes as well as from monocytes Even fibrous connective substance is formed so that the final result of the cultures is a tissue differing in no respect from scar tissue Accordingly it is impossible to doubt that lymphocytes and monocytes are cells with great developmental powers COHNHEIM (Z)

Hundsdoerfer Trauma and Diabetes Carbohydrate Metabolism in Fractures (Trauma und Diabete Zuckerstoffwechsel bei Frakturen) *53 Tag d deutsch G s f Chir* Berlin 1929

According to Umber and Rosenberg a latent diabetes can be rendered manifest and a manifest diabetes can be made worse by severe bodily or psychic trauma but no clinical or experimental proof has been found that diabetes can be caused by trauma However glycosuria spontaneous or alimentary is relatively common following trauma or concussion of the brain and other injuries Konjetzny and Weiland have observed transitory glycosuria in 40 per cent of cases of fracture

Glycosuria is a renal process that is bound up with a threshold value of blood sugar for which however no exact figure can be given A single determination of the blood sugar under conditions of fasting is of no value Conclusions can be drawn only from continuous determinations of the blood sugar values when the exact amount of the ingested sugar is known

The author presents a number of blood sugar curves in cases of fracture In all of the cases there was an alimentary glycosuria The curves indicate that there were disturbances in the carbohydrate metabolism since later investigations showed that as the healing of the fracture progressed the curves returned to normal

Various theories have been advanced regarding the origin of these disturbances of metabolism The author concludes from his blood sugar curves that there is a toxic injury of the pancreas or liver He draws this conclusion because of the later appearance of the peak of the glycæmia and the slow subsidence of the reaction which can be explained only by injury to the pancreas On the other hand he believes it possible also that as the result of a toxic injury to the liver the glycosecretory stimulation of the liver caused by the administered dextrose becomes stronger and the synthesis and fixation of glycogen are disturbed Another possibility is a disturbance of the acid base equilibrium such as occurs after operations with the development of glycæmia as the result of acidosis which appears also after fractures Further research to clear up these questions is being carried on At the present time it can be said only that disturbances of carbohydrate metabolism are present in cases of fracture even when they cannot be recognized by the usual methods of examination

STETTINER (Z)

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NOTE—THE BOLD FACE FIGURES IN BRACKETS AT THE RIGHT OF A REFERENCE INDICATE THE PAGE OF THIS ISSUE ON WHICH AN ABSTRACT OF THE ARTICLE REFERRED TO MAY BE FOUND

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